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1951

STATE OF ILLINOIS
ADLAI E. STEVENSON, Governor



AN ACT IN RELATION TO OIL,
GAS, COAL AND OTHER
SURFACE AND UNDERGROUND
RESOURCES

AND

RULES AND REGULATIONS

DEPARTMENT OF MINES & MINERALS
WALTER EADIE, Director

DIVISION OF OIL AND GAS
J. W. FIRTH, Oil Conservation Supervisor

(Printed by Authority of the State of Illinois)

1951

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I N D E X

	Page
OIL, GAS and COAL ACT.....	3-19
RULES and REGULATIONS.....	20-72

R U L E I

GENERAL PROVISIONS	21-27
Definitions	21-23
Prevention of Waste	23-24
Jurisdiction	24
Enforcement of Act	24
Delegation of Authority	24
Right of Inspection.....	24-25
Right of Access	25
Sworn Statements	25
Additional Reports	25-26
When Rules and Regulations Become Effective.....	26
Notice of Rules and Regulations.....	26
Forms	26
Hearings—Notice	26-27
Public Hearings	26-27
Publisher's Certificate	27
Other Hearings	27

R U L E II

PERMITS	28-37
Application to be Filed.....	28
Copy of Evidence of Ownership to be Attached.....	28-29
When Permit to be Issued.....	29
Permit Issued to Owner or Manager.....	29
Permit Posted at Well Site.....	29
Authority to Deny Permit.....	29
Permits Not Transferable	29
Application for Permit to Drill or Deepen Well.....	30-33
Requirements	30
Drill Out or Deepen Plugged Well.....	30
Contents of Application	30-31
Fee	31
Expiration of Permit	31-32
Change of Location	32
Directional Drilling	32-33
Application for Permit for Geological or Structural Test Hole	33
Permits for Salt Water Disposal or for Gas, Air, Water, or Other Liquid Input Wells.....	33-35
Requirements for Permit	33-34
Notice to Other Owners or Managers.....	34
Authority to Deny Permit	35
Authority to Suspend Operations.....	35
Permit Requirements in Mine Areas.....	35-37
For Well Penetrating Mine.....	35-36
Agreement With Mine Owner.....	35-36
Requirements in Absence of Agreement.....	36
Requirements in Inactive Mining Areas.....	36-37
Notice to Mine Owner.....	37
Maps Available at Well Site.....	37

RULE III

	Page
BONDS	38-40
When Bonds Required—Amount.....	38
Kind of Bond—Execution	38-39
Surety or Cash Bond.....	38
Personal Bond	38-39
Execution of Bond	39
Bond of Manager	39
Bond Form—Approval	39
Surety May Cancel Bond.....	39-40
Requirements Before Bond May Be Canceled.....	40
Department May Cancel Bond.....	40
Casing Puller's Bond	40

RULE IV

SPACING OF WELLS	41-48
General Spacing Rules	41-45
Wells Drilled or Deepened to Sandstone or Lime- stone Formations	41
Drilling Unit	41-42
Separately Owned Tracts Within Drilling Unit.....	42-43
Twin Wells	43
Wells Within Corporate Limits	43
Exceptions	43-45
Secondary Recovery	45-48
Pattern Flood	45-46
Other Floods	46-47
Record to be Kept	47-48
Nonconforming Well to be Plugged.....	48

RULE V

FILING OF LOGS AND WELL INFORMATION.....	49-50
Return of Completion Card	49
Well Log to be Filed.....	49
Contents of Well Log	49-50
Collection of Drill Cuttings.....	50

RULE VI

IDENTIFICATION OF LEASES AND TRANSFER OF MANAGEMENT	51
Lease and Well Identification.....	51
Transfer of Management	51

RULE VII

WASTE PROHIBITED	52-53
Avoidable Waste of Gas.....	52
Escape of Unburned Gas Prohibited.....	52
Burn-off Pits	52-53
Lease Tank Reservoirs	53
Fire Hazards at Well Locations.....	53

RULE VIII

PROTECTION OF WORKABLE COAL BEDS.....	54-59
Workable Coal Beds Defined	54
Department May Determine Presence of Coal Seams..	54-55
Well Locations Prohibited	55
Notice to Department	55

	Page
Casing and Protective Work	55
Operational Requirements Over Active Mine.....	55-59
Department to Determine Safety Factors.....	55-56
Drilling Methods and Procedure.....	56-58
General	56
Mine Protective String	56-57
Cementing Oil String	57
Temperature Survey Required	58
Shooting Wells Over Active Mines or Worked Out	
Portions of Active Mines	58-59
Shot Less Than Fifty Quarts.....	58
Shot Exceeding Fifty Quarts.....	59

RULE IX

DISPOSAL OF SALT WATER OR OTHER LIQUIDS TO PREVENT WASTE AS DEFINED IN THE ACT..	60-61
Departmental Supervision	60
Disposal in Underground Stratum.....	60
Disposal in Earthen Pits	60-61
Pipes to be Kept in Repair.....	61

RULE X

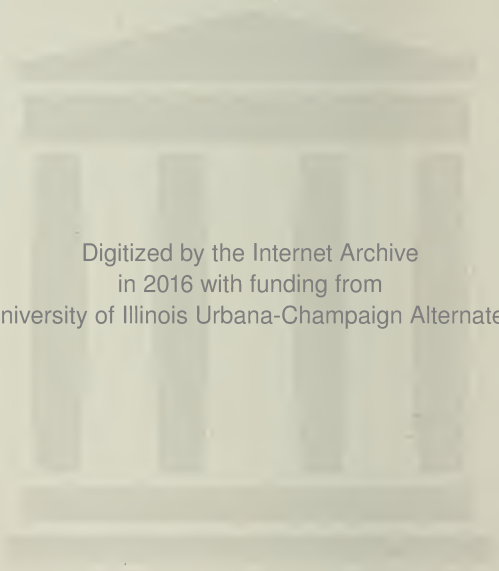
VACUUM	62-63
Application for Use of Vacuum.....	62
Notice and Hearing on Application.....	62-63
Departmental Authority	63

RULE XI

PLUGGING OF WELLS	64-71
Departmental Supervision	64
When Well to be Plugged.....	64-65
Prior Notice to Departmental Representative.....	65
Owner to Furnish Well Log.....	65
Plugging Methods and Procedures.....	66-69
Generally	66
Protection of Coal Seams.....	66-67
Shooting Casing in Rotary Hole.....	67-68
In Wells Drilled with Cable Tools.....	68-69
When Casing Left in Hole.....	69
Foreign Material Prohibited	69
Plugging Bridged Hole	69
Converting to Water Well	70
Restoration of Surface	70
Extension of Time to Plug Well.....	70-71
Filing Plugging Affidavit	71

RULE XII

VALIDITY OF RULES AND REGULATIONS.....	72
DEPARTMENTAL FORMS	73



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“An Act in relation to oil, gas, coal and other surface and underground resources.”

BE IT ENACTED BY THE PEOPLE OF THE STATE OF ILLINOIS, REPRESENTED IN THE GENERAL ASSEMBLY :

Sec. 1. Unless the context otherwise requires, the words defined in this Section have the following meanings as used in this Act.

“Person” means any natural person, corporation, association, partnership, receiver, trustee, guardian, executor, administrator, fiduciary or representative of any kind.

“Oil” means natural crude oil or petroleum and other hydrocarbons, regardless of gravity, which are produced at the well in liquid form by ordinary production methods or by the use of an oil and gas separator and which are not the result of condensation of gas after it leaves the underground reservoir.

“Gas” means all natural gas, including casing-head gas, and all other natural hydrocarbons not defined above as oil.

“Pool” means a natural, underground reservoir containing, in whole or in part, a natural accumulation of oil or gas, or both. Each productive zone or stratum of a general structure, which is completely separated from any other zone or stratum in the structure, is deemed a separate “pool” as used herein.

“Field” means the same general surface area which is underlaid or appears to be underlaid by one or more pools.

“Owner” means the person who has the right to drill into and produce from any pool, and to appropriate the production either for himself or for himself and another, or others.

“Manager” means the operator, whether the owner or not, of a well or wells drilled for oil or gas, or both.

“Department” means the Department of Mines and Minerals. “Director” means the Director of the Department of Mines and Minerals.

“Waste” means “physical waste” as that term is generally understood in the oil and gas industry; and further includes:

(1) the locating, drilling and producing of any oil or gas well or wells drilled contrary to the valid order, rules and regulations adopted by the Department under the provisions of this Act.

(2) permitting the migration of oil, gas, or water from the stratum in which it is found, into other strata, thereby ultimately resulting in the loss of recoverable oil, gas, or both;

(3) the drowning with water of any stratum or part thereof capable of producing oil or gas, except for secondary recovery purposes;

(4) the unreasonable damage to underground, fresh or mineral water supply, workable coal seams, or other mineral deposits in the operations for the discovery, development, production, or handling of oil and gas;

(5) the unnecessary or excessive surface loss or destruction of oil or gas resulting from evaporation, seepage, leakage or fire, especially such loss or destruction incident to or resulting from the escape of gas into the open air, provided, however, it shall not be unlawful for the operator or owner of any well producing both oil and gas to burn such gas in flares when such gas is, pursuant to the other provisions of this Act, lawfully produced, and where there is no market at the well for such escaping gas; and where the same is used for the extraction of casinghead gas, it shall not be unlawful for the operator of the plant after the process of extraction is completed, to burn such

residue in flares when there is no market at such plant for such residue gas;

(6) permitting unnecessary fire hazards;

(7) permitting unnecessary damage to or destruction of the surface, soil, animal, fish or aquatic life or property from oil or gas operations.

Sec. 1.1. Waste as defined by this Act is prohibited.

Sec. 2. The provisions of this Act shall not apply to mine or quarry drill or blast holes, nor to seismograph test holes, or to holes drilled to explore strippable coal.

The provisions of this Act shall not apply to geological or structure test holes, except that notification of intent to drill shall be filed with the Department, and permit shall be obtained as provided in clause (2) of Section 6 of this Act and except that all geological or structure test holes drilled below the glacial drift shall be plugged under the supervision of the Department.

All wells drilled for water, except those which penetrate the subsurface below the glacial drift, are excepted from the provisions of this Act.

Sec. 3. The Department shall be charged with the duty of enforcing this Act and all rules, regulations and orders promulgated in pursuance of this Act.

The Director may authorize, in writing, any employee of the Department, qualified by training and experience, to perform in his stead the powers and duties set forth in this Act, which do not require the exercise of administrative discretion.

Sec. 4. The Department shall have jurisdiction and authority over all persons and property necessary to enforce effectively the provisions of this Act.

Sec. 5. The Department shall have the authority and it shall be its duty, to employ all necessary personnel to carry out the provisions of this

Act; to fix their compensation; to designate their headquarters and to define their duties. The aforesaid personnel shall be exempt from the provisions and regulations of the State Civil Service Act.

Sec. 6. The Department shall have the authority to call hearings, to make, after hearing and notice as hereinafter provided, such reasonable rules, regulations, and orders as may be necessary from time to time in the proper administration and enforcement of this Act, including Rules, Regulations and Orders for the following purposes: (1) to require the drilling, casing and plugging of wells to be done in such a manner as to prevent the migration of oil or gas from one stratum to another; to prevent the intrusion of water into oil, gas or coal strata; to prevent the pollution of fresh water supplies by oil, gas or salt water, (2) to require the person desiring or proposing to drill any well in search of oil or gas, before commencing the drilling of any such well, to make application to the Department upon such form as the Department may prescribe and to comply with the following provisions, viz: The drilling of any well is hereby prohibited until such application is made and the applicant is entitled to a permit therefor as provided by this Act; each application for a well permit shall indicate the exact location of such well, the name and address of the manager, operator, contractor, driller, or any other person responsible for the conduct of drilling operations, the proposed depth of the well, and such other relevant information not involving ownership as the Department may deem necessary or convenient to effectuate the purposes of this Act; each applicant previous to drilling for oil or gas or any other purpose in connection therewith, and each manager or operator who has acquired or may hereafter acquire any well drilled for these purposes which has not theretofore been plugged and abandoned in accordance with the laws, rules, regulations and orders of the Department, shall execute and file with the Depart-

ment a bond of \$1,000.00 for each of such wells, or in lieu thereof, a blanket bond in the sum of \$2,500.00 for all wells, provided that, nothing herein shall be construed to require more than one bond for such well at any one time, although successive bonds may be required until the well is abandoned and plugged; and each of such bonds shall be approved by the Department on a form to be prescribed by the Department, and shall provide for the compliance of plugging such well, or wells, the filling of all excavations, the removal of all concrete bases, discarded machinery and material, and restoring the surface as nearly as possible to its former condition before such well, or wells, was drilled; and such bond shall be renewed and be continued in effect until the aforesaid conditions have been fully complied with. In event of the assignment and transfer of the property covered by any bond, it shall remain in full force and effect until the approval by the Department of a similar bond which has been executed by the new owner and filed with it. (3) To require the filing of logs, including electric logs, and drilling records, and the lodgment in the office of the State Geological Survey of typical drill cuttings or cores, if cores are taken, within three months from the time of the completion of any well. (4) To prevent "blow-outs," "caving" and "seepage" in the same sense that conditions indicated by such terms are generally understood in the oil and gas business. (5) To prevent fires. (6) To ascertain and identify the ownership of all oil and gas wells, producing leases, refineries, tanks, plants, structures, and all storage and transportation equipment and facilities. (7) To regulate the secondary recovery in oil pools and oil fields. (8) To regulate or prohibit the use of vacuum. (9) To regulate the spacing of wells, the issuance of permits, and the establishment of drilling units. (10) To regulate directional drilling of oil or gas wells. (11) To regulate the plugging of wells. (12) To require that wells for which no

logs or unsatisfactory logs are supplied shall be completely plugged with cement from bottom to top. (13) To require a description in such form as is determined by the Department of the method of well plugging for each well, indicating the character of material used and the positions and dimensions of each plug. (14) To prohibit waste, as defined in this Act. (15) To require the furnishing of such relevant information as the Department may from time to time deem necessary or convenient to carry into effect the purposes of this Act.

For the purposes of this Act, the State Geological Survey shall co-operate with the Department in making available its scientific and technical information on the oil and gas resources of the State, and the Department shall in turn furnish a copy to the State Geological Survey of all drilling permits as issued, and such other drilling and operating data received or secured by the Department which are pertinent to scientific research on the State's mineral resources.

Whenever rules, regulations or orders are mentioned in this Act, such terms have no application to any action by the Department for the management of the internal affairs thereof.

Sec. 6.1. When the applicant has complied with all applicable provisions of this Act and the rules and regulations adopted by the Department pursuant thereto concerning application for and the issuance of permits for the drilling of a well for oil or gas purposes upon a unit established under such rules, regulations and orders of the Department, the Department shall issue the permit.

Sec. 7. The Department shall have the right at all times to go upon and inspect oil and gas properties from which oil or gas is being produced, or where drilling operations have been or are being conducted for the purpose of ascertaining whether the provisions of this Act and the Orders, Rules and Regulations made in pursuance of this Act are being complied with.

Sec. 8. The Department shall have the authority and it shall be its duty to make such inquiries as it may think proper to determine whether or not waste, over which it has jurisdiction, exists or is imminent. In the exercise of such power the Department shall have the authority to collect data; to make investigation and inspections; to examine properties, including drilling records and logs; to examine, check and test oil and gas wells; to hold hearings; and to take such action as may be reasonably necessary to enforce this Act.

Sec. 8A. The Department shall have the power and authority to regulate the disposal of salt or sulphur-bearing water and any oil field waste produced in the operation of any oil or gas well, and to adopt proper rules and regulations relative thereto.

Sec. 9. (a) The Department shall prescribe rules of order for procedure in hearings or other proceedings before it under this Act. (b) No rule, regulation or order, including change, renewal or extension thereof, shall, in the absence of an emergency, be made by the Department under the provisions of this Act except after a public hearing upon at least ten days' notice given in the manner and form as may be prescribed by the Department. Such public hearing shall be held at such time, place and in such manner as may be prescribed by the Department and any person having any interest in the subject matter of the hearing shall be entitled to be heard. (c) In the event an emergency is found to exist by the Department which requires the making, changing, renewal, or extension of a Rule, Regulation or Order without first having a hearing, such emergency rule, regulation or order shall have the same validity as if a hearing with respect to the same had been held after due notice. The emergency rule, regulation or order permitted by this subsection shall remain in force no longer than fifteen days from its effective date, and, in any event, it shall expire when the rule, regulation

or order made after due notice and hearing with respect to the subject matter of such emergency Rule, Regulation or Order becomes effective.

(d) All Rules, Regulations and Orders made by the Department shall be in writing and shall be entered in full in a book to be kept for such purpose by the Department, which shall be a public record and open to inspection at all times during reasonable office hours. A copy of such Rule, Regulation, or Order, certified by the Director, shall be received in evidence in all courts of this State with the same effect as the original. (e) Any interested person shall have the right to have the Department call a hearing for the purpose of taking action in respect to any matter within its jurisdiction by making a request therefor in writing. Upon the receipt of any such request the Department promptly shall call a hearing thereon, and, after such hearing, and with all convenient speed and in any event within thirty (30) days after the conclusion of such hearing, shall take such action with regard to the subject matter thereof as it may deem appropriate.

Sec. 10. Any interested person affected by this Act or by any Rule, Regulation or Order made or promulgated by the Department hereunder, who may be dissatisfied therewith, shall have the right to file a suit in the Circuit Court of the county wherein is situated any part of the land which is the subject matter of such action, to test the validity of any provision of this Act or any Rule, Regulation or Order made or promulgated hereunder. Such suit shall be advanced for trial and be determined as expeditiously as feasible, and no postponement, or continuance thereof shall be granted except for reasons deemed imperative by the court. In such trials, the burden of proof shall be upon the party complaining of the validity of this Act or any provision thereof or any Rule, Regulation or Order made or promulgated hereunder and any such Rule, Regulation or Order so complained of

shall be deemed *prima facie* valid. An appeal may be taken from the ruling of the court as in other civil actions.

Sec. 11. Whenever it shall appear that any person is violating or threatening to violate any provision of this Act, or any Rule, Regulation or Order made hereunder, and unless the Department, without litigation, can effectively prevent further violation or threat of violation, then the Department, through the Attorney General, who may call to his assistance the State's Attorney of the county in which suit is instituted, shall bring suit in the name of the people of the State of Illinois against such person in the circuit court of the county wherein is situated any part of the land which is the subject matter of such action, to restrain such person from continuing such violation or from carrying out the threat of violation. In such suit the Department, in the name of the People of the State of Illinois, may obtain such injunctions, prohibitory and mandatory, including temporary restraining orders and temporary injunctions, as the facts may warrant.

Sec. 12. Before any drilling or deepening for oil or gas is done it shall be the duty of the person, having the custody or control of any land upon which he desires to drill, to secure from the Department a permit for such drilling.

Sec. 13. Where an application is made to drill or deepen an oil or gas well within the limits of any city, village or incorporated town, the application shall so state, and be accompanied with a certified copy of the official consent of the municipal authorities for said well to be drilled, and no permit shall be issued unless consent is secured and filed with the application. In the event that an amended location is selected, the original permit shall not be valid unless a new certified consent is filed for the amended location.

Sec. 14. Each application for permit to drill or deepen shall be accompanied by a bank draft,

certified check, or post office or express money order for twenty-five dollars (\$25.00) payable to the State of Illinois, same to be deposited with the Treasurer of the State of Illinois.

Sec. 15. Any permit to drill a well for oil or gas shall expire one year from the date of issuance unless acted upon prior thereto by the commencement of drilling operations which are to be continued with due diligence. It shall in all respects be subject to the provisions of this Act and the rules, regulations, limitations and penalties herein provided or which may hereafter be adopted for the drilling, operation or plugging of oil or gas wells, or other drilling operations.

Sec. 16. Every owner or operator of any oil or gas well may appoint a person to act as his Attorney in fact to execute applications for permits to drill oil or gas wells, or any wells in connection therewith, and to execute bonds and any other papers relative to such permits. Such owner or operator shall file with the Department a properly executed power of attorney on a form acceptable to the Department. Every person so appointing an Attorney in fact shall, within five days after the termination of any such appointment, notify the Department in writing of such termination.

Sec. 17. In case any person drilling an oil or gas well shall request a location over a portion of the coal where mining operations have not heretofore been conducted and where coal is in place, then said well shall be drilled and sunk with due regard for the plans for future development and extensions of said seams.

Sec. 18. In no event shall any high explosive be exploded in any well until twenty-four hours' notice of the intention has been given to the owner of any working coal seam.

Sec. 19. If when a well is sunk and there is no oil or gas found and such hole is what is commonly known as a "barren well" or "dry hole," or when

a well is abandoned, then such hole shall be plugged in accordance with Rules and Regulations and Orders formulated in pursuance of the provisions of this Act. The Department shall have power to determine what constitutes abandonment.

Sec. 20. No oil or gas well shall be drilled hereafter nearer than 250 feet to any opening to a working coal mine used as a means of ingress or egress for the persons employed therein or which is used as an air shaft, except by mutual agreement between the person owning or operating the mine and the oil or gas operator.

Sec. 21.1. The Department is authorized to issue permits for the drilling of wells and to regulate the spacing of wells for oil and gas purposes, but no spacing regulation shall be adopted which requires the allocation of more than twenty acres of surface area to an individual well for production of oil from a limestone formation, or more than ten acres of surface area to an individual well for production of oil from a sandstone formation, provided, however, that the Department may permit the allocation of greater acreage to an individual well than that above specified, and provided further that the spacing of wells shall not include the fixing of a pattern except with respect to the two nearest external boundary lines of each unit, and provided further that no acreage allocation shall be required for input or injection wells nor for producing wells lying within a secondary recovery unit as now or hereafter established.

For the prevention of waste, to prevent the dissipation of the natural resources of this State, and to avoid augmentation and accumulation of risk arising from the drilling of an excessive number of wells, but subject to the above limitations, the Department shall, after due investigation and a hearing, have full power and authority in accordance with the provisions hereof to establish such drilling unit or units as it may find to be reasonable and practicable, having consideration for the regional

geological characteristics and all other pertinent facts conducive to the most efficient and economical ultimate recovery of oil and gas therefrom, and shall make such orders, rules and regulations as will regulate the spacing of wells within such limits.

Sec. 22.1. (a) When two or more separately owned tracts of land are embraced within an established drilling unit, the owners thereof may validly agree to integrate their interests and to develop their lands as a drilling unit. Where, however, such owners have not agreed to integrate their interests, the Department shall, for the prevention of waste or to avoid the drilling of unnecessary wells, require such owners to do so and to develop their lands as a drilling unit.

(b) All orders requiring such integration shall be made after notice and hearing and shall be upon terms and conditions that are just and reasonable and will afford to the owner of each tract the opportunity to recover or receive his just and equitable share of oil and gas in the pool without unnecessary expense and will prevent or minimize reasonably avoidable drainage from each integrated unit which is not equalized by counter drainage, but the Department may not limit the production from any well. The portion of the production allocated to the owner of each tract included in an integrated unit, formed by an integration order or by voluntary agreement, shall, when produced, be considered as if it had been produced from such tract by a well drilled thereon. In the event such integration is required, the operator designated by the Department to develop and operate the integrated unit shall have the right to charge to each other interested owner the actual expenditures required for such purpose not in excess of what are reasonable, including charges for supervision, and the operator shall have the right to receive the first production from any well drilled by him thereon, which otherwise would be delivered or paid to the other parties jointly interested in the drilling of

the well, so that the amount due by each of them for his share of the expense of drilling, equipping and operation of the well may be paid to the operator of the well out of production, with the value of the production calculated at the market price in the field at the time such production is received by the operator or placed to his credit. In the event of any dispute relative to such costs, the Department shall determine the proper costs.

Sec. 23.1. The owner or owners of any tract of land which is productive or capable of being productive of oil or gas or any owner or operator of an oil and gas leasehold on which productive wells are situated, under a lease authorizing the lessee or his assigns to explore for and remove oil and gas, from any sand, strata, or formation, shall be permitted, in the interest of oil and gas conservation, to introduce and inject air, gas, water, or other fluid under pressure upon such sand, strata or formation, for the purpose of recovering the oil and gas contained therein; provided, that the owner or operator of a well into which water or other fluid is to be introduced into the sand, strata, or formation, shall make a written application to the Department for authority so to do, and provided that written approval has been granted him by the Department; and provided further that the operation shall be done under the rules and regulations of the Department; and further provided, that such introduction or injection of air, gas, water or other liquid under pressure upon or into such sand, strata or formation shall not be deemed to be an unlawful act.

Sec. 23.2. (a) When two or more separately owned tracts of land are embraced within a pool or a portion of a pool suitable for secondary recovery methods, the owners thereof may validly agree to integrate their interest therein and to develop their land as a unit, and production from any tract in such established unit shall be regarded as produc-

tion from all presently owned tracts or interests within such units.

(b) Agreements made in the interest of conservation of oil or gas, or both, or the prevention of waste, between and among owners or operators, or both, owning separate holdings in the same oil or gas pool, or in any area that appears from geological or other data to be underlain by a common accumulation of oil or gas, or both, or between and among such owners or operators, or both, and royalty owners therein, of a pool or area, or any part thereof, as a unit for establishing and carrying out a plan for the cooperative development and operation thereof, when such agreements are approved by the Department, are hereby authorized and shall not be held or construed to violate any of the statutes of this State relating to trusts, monopolies or contracts and combinations in restraint of trade.

Sec. 24. The provisions of this Section shall not apply to any city, village or incorporated town which has enacted or hereafter enacts an ordinance or resolution limiting the locating or spacing of wells.

Not more than one permit per pool for each block shall be issued for any city, village or incorporated town in which oil or gas is discovered on or after July 29, 1941. In any city, village or incorporated town in which oil or gas is discovered prior to July 29, 1941, not more than one permit per pool for each block shall be issued for any block in which no oil or gas well has been or is being drilled to any such pool prior to said date.

Sec. 25. No power herein granted to prevent waste shall be interpreted or construed as authorizing limitation of production of any well, wells, lease, leases, pool, field or properties to prevent or control economic waste or limit production to market demand.

Exploration and discovery of new and additional pools, fields and producing horizons are vital and the effect and administration of this Act shall be in

accordance therewith and not contrary thereto. Any rule, regulation or order issued under the general powers of this Act in violation of the provisions of this Section shall be void and of no effect.

Sec. 26 (A). Any person who violates any provision of this Act or who, after notice of any valid rule, regulation or order of the Department made hereunder, violates, repeats or continues the violation thereof, shall be subject to a fine of not to exceed fifty dollars (\$50.00) a day for each and every act of violation. (b) Any person wilfully aiding or abetting any other person in the violation of any provision of this act, or any Rule, Regulation and Order made hereunder, shall be subject to the same penalties as are prescribed herein for the violation by such other person.

Sec. 27. "An Act in relation to sinking, filling and operating of wells for oil, gas, water or other purposes," approved May 16, 1905, as amended, is repealed.

Sec. 28. If any section, paragraph, sentence or phrase of this Act shall be declared unconstitutional, or void for any reason by any court of final jurisdiction, such fact shall not in any manner invalidate or affect any other section, paragraph, sentence or phrase of this Act, but the same shall continue in full force and effect.

Effective July 12, 1951.

An Act concerning the production of oil and gas.

Whereas, in order to promote the development, production and utilization of the natural resources of oil and gas within the State of Illinois, it is in the public interest to encourage, authorize, and provide for the maximum recovery of oil and gas in the State, by the use and employment of fluid injection into productive oil and gas formations, including the use of secondary recovery methods, and also including cycling and recycling of gas,

pressure maintenance, repressuring, and injection of air, gas, water and other fluids into productive horizons or strata, and to declare the law of the State in regard thereto, therefore:

BE IT ENACTED BY THE PEOPLE OF THE STATE OF ILLINOIS, REPRESENTED IN THE GENERAL ASSEMBLY:

Section 1. It is hereby declared to be the law of the State of Illinois that the grant in an oil and gas lease or contract to a lessee or operator of the right or power, in substance, to explore for and remove all oil and gas from any lands in the State of Illinois, in the absence of an express provision to the contrary therein contained, includes the right of the lessee, or his heirs or assigns, to do what a prudent operator using reasonable diligence, would do having in mind the best interests of the lessor and lessee, in producing and removing oil and gas, and includes the use of practices and methods employed by the oil and gas industry, including the injection of air, gas, water and other fluids into the productive formations or strata, and cycling and recycling of gas, when done upon the authority of and under the rules, regulations and orders of the Department of Mines and Minerals of the State of Illinois, as heretofore created or other Department or Commission hereafter created and authorized by law hereafter to administer the laws relating to the production of oil or gas, or both, in the State of Illinois.

Effective July 11, 1951.

An Act to amend Section 221 of Division I of “An Act to revise the law in relation to criminal jurisprudence” approved March 27, 1874, as amended.

BE IT ENACTED BY THE PEOPLE OF THE STATE OF ILLINOIS, REPRESENTED IN THE GENERAL ASSEMBLY:

Section 1. Section 221 of Division I of “An Act to revise the law in relation to criminal jurisprudence,” approved March 27, 1874, as amended, is amended to read as follows:

DIVISION I.

Sec. 221. It is a public nuisance:

* * *

10. To permit any well drilled for oil, gas, salt water disposal or any other purpose in connection with the production of oil and gas, to remain unplugged, after such well is no longer used for the purpose for which it was drilled.

11. To construct or operate any salt water pit or oil field refuse pit, commonly called a “burn out pit”, so that salt water, brine or oil field refuse or other waste liquids may escape therefrom in any manner except by the evaporation of such salt water or brine or by the burning of such oil field waste or refuse.

12. To permit concrete bases, discarded machinery and materials to remain around any oil or gas well, or to fail to fill any holes, cellars, slush pits and other excavations made in connection with any such well or to restore the surface of the lands surrounding any such well to its condition before the drilling of any such well, upon abandonment of any such oil or gas well.

13. To permit any salt water, oil, gas, or other wastes from any well drilled for oil, gas, or exploratory purposes to escape to the surface, or into a mine or coal seam, or into any underground fresh water supply, or from one underground stratum to another.

Effective July 23, 1943.

RULES AND REGULATIONS
of the
DEPARTMENT OF MINES AND MINERALS
for the
OIL AND GAS DIVISION

(Approved and adopted November 7, 1951)

In order to properly administer and enforce the provisions of an Act of the General Assembly of the State of Illinois entitled

“An Act in Relation to Oil, Gas, Coal and other Surface and Underground Resources, and to Repeal an Act Herein Named” filed July 29, 1941, as amended by an Act approved July 24, 1945 and as amended by an Act approved July 12, 1951

and to prevent waste as defined in said Act as amended, to promote the maximum ultimate recovery of oil and gas from the various pools, fields and reservoirs in the State of Illinois and to protect the vested or co-equal rights of the owners of oil, gas, coal and other surface and underground resources, the following Rules and Regulations are hereby adopted and promulgated by the Department of Mines and Minerals of the State of Illinois.

RULE I

GENERAL PROVISIONS

(1) DEFINITIONS

“**THE ACT**”—When used herein shall refer to and mean the provisions of the aforementioned Act of the General Assembly of the State of Illinois, as amended.

“**CEMENT**”—As used herein shall mean Portland or “neat” cement.

“**DEPARTMENTAL REPRESENTATIVE**”—When used herein shall mean any employee of the Department of Mines and Minerals of the State of Illinois, who is qualified by training and experience, and is authorized by the Director in writing, to perform in his stead the powers and duties set forth in the aforementioned Act, which do not require the exercise of administrative discretion or that may be prescribed by the Rules, Regulations or Orders of the Department adopted or promulgated pursuant thereto.

“**DEVELOPMENT**”—Shall mean any work or operation on or appurtenant to the oil and gas leasehold premises, which actively looks toward the drilling of wells for oil or gas, or the discovery of or bringing in production.

“**LEASE TANK**”—Shall mean the tank or other receptacle into which oil is produced either directly from a well or from a well through a gas separator, gun barrel or similar equipment.

“**LOG**”—Shall mean the systematic detailed written record correctly describing the strata

and formations progressively encountered in the drilling of a well for oil or gas, including water, oil and gas formations or other underground resources, with such additional data as is usually recorded in the normal procedure of drilling, including electric surveying or logging.

“MUD-LADEN FLUID”—Shall mean any approved mixture of water and clay or other suitable material as the term is commonly used in the industry which will effectively seal the formation to which it is applied.

“PLUG OR PLUGGING”—Shall mean the abandoning of a producing, nonproductive or nonoperative well; or the stopping of the flow of oil, gas, or water in a well.

“OIL STRING”—Shall mean that string of casing placed in a well and used for the purpose of segregating the horizon or formation from which production is obtained and affording a means of bringing the oil or gas from such productive horizon or formation to the surface.

“REPRESSURE”—Shall mean to increase the reservoir pressure by the introduction of gas, air or water or other fluid into the reservoir.

“ROTARY DRILLING”—Shall mean the hydraulic process of drilling a well for oil or gas as such method is commonly used in the industry.

“SHOOTING”—Shall mean the exploding of nitroglycerin or other high explosives in a well hole for the purpose of discovering or increasing the production of oil or gas therefrom or in perforating or parting the pipe therein.

“SPECIAL MUD MATERIALS”—Shall mean weighting material such as barium sulphate, Bentonitic clays, salt-resistant clays, filtration reduction agents and fibrous materials.

“UNDEVELOPED LIMITS OF A MINE”—The undeveloped limits of a mine are that portion of a mine where the entries have not been driven to the boundaries of the mine property.

“VACUUM”—Shall mean pressure which is reduced below the pressure of the atmosphere.

“WASTE LIQUIDS”—Shall mean oil field brines, cut oil, bottom sediments, concentrated sulphur water and acid waters.

“WELL”—Shall mean any well drilled for the purpose of discovering oil or gas, or any other purpose in connection with the exploration and production of the same including gas, air and water input wells.

“DIRECTIONAL DRILLING”— Shall mean the controlled directional drilling when the bottom of the well bore is directed away from the vertical position.

“DRILLING UNIT”—Shall mean (A) ten (10) acres of surface area allocated to an individual well drilled or deepened for the production of oil or gas from a sandstone formation, or (B) twenty (20) acres of surface area allocated to an individual well drilled or deepened for the production of oil or gas from a limestone formation.

“PATTERN FLOOD”—Shall mean a definite geometric arrangement of the input wells and the producing oil wells with a constant distance between the input and oil wells for any definite pattern.

(2) PREVENTION OF WASTE

All owners, managers, contractors, drillers, service companies, pipe pulling and salvage contractors or other persons drilling, casing or plugging oil or gas wells in this State shall at all times

conduct their operations, and drill, case, plug and abandon the same in the manner set forth by the Act or as hereinafter provided, so as to prevent waste or the escape of oil or gas out of one stratum to another, prevent the intrusion of water into oil, gas, or coal strata, and prevent the pollution of fresh water supplies by oil, gas, salt water, or sulphur-bearing water.

(3) JURISDICTION

As provided in the Act, the Department shall have jurisdiction and authority over all persons and property necessary to enforce effectively the provisions of the Act.

(4) ENFORCEMENT OF ACT

The Department of Mines and Minerals of the State of Illinois, being charged with the duty of enforcing the provisions of the Act and all valid Rules, Regulations and Orders adopted and promulgated pursuant thereto, may enforce or cause same to be enforced by action initiated by the Oil and Gas Division of said Department.

(5) DELEGATION OF AUTHORITY

The Director may authorize in writing any employee of the Department (herein designated Departmental Representative) qualified by training and experience, to perform in his stead the powers and duties set forth in the Act, which do not require the exercise of administrative discretion, or that may be prescribed by the Rules, Regulations or Orders of the Department adopted and promulgated pursuant thereto.

(6) RIGHT OF INSPECTION

The Director or any authorized Departmental Representative shall have the right at all times to go upon and inspect any oil and gas leasehold premises or property where drilling operations are or have been conducted, or from which oil or gas is being produced, for the purpose of making any

investigation or tests to ascertain whether the provisions of the Act or the Rules, Regulations or Orders of the Department are being complied with, and shall make due and timely report of any violation thereof.

(7) RIGHT OF ACCESS

The Director or any authorized Departmental Representative shall have access to all well records wherever located. All persons having the custody or jurisdiction of the same shall permit the Director or authorized Departmental Representative to come upon any leasehold or other premises or property operated or controlled by them and have access at all times to, and inspect records pertaining to the drilling, completion, operation or plugging of any well drilled in this State, provided always that any information so obtained shall be considered confidential, and reported to, and only to, the Oil and Gas Division in the Department of Mines and Minerals; except that, any information so obtained may be presented as evidence in any proceeding concerned with any alleged violation of the Act or any valid Rule, Regulation or Order adopted or promulgated pursuant thereto.

(8) SWORN STATEMENTS

The Department shall require sworn statements or affidavits when it is deemed to be expedient or necessary to effectuate the provisions of the Act. When such sworn statements or affidavits are required the same shall be sworn to before an officer or person authorized to administer oaths in the state where oath is taken.

(9) ADDITIONAL REPORTS

When requested in writing by the Department, any oil well servicing company or other person or persons in the control or custody thereof, shall furnish and file with said Division any reports and records showing gun perforation, squeeze, cementing, shooting or chemical treatment of any well or

wells, which information shall also be considered as confidential, except when presented as legal evidence in any court proceedings concerned with any alleged violation of the Act or any valid Rule, Regulation or Order adopted or promulgated pursuant thereto.

(10) WHEN RULES AND REGULATIONS BECOME EFFECTIVE

All rules and regulations herein shall be in full force and effect when adopted and promulgated by the Department, after notice and hearing as provided by the aforementioned Act, except as the same may hereafter be amended, modified, altered or enlarged in the same manner by the Department.

(11) NOTICE OF RULES AND REGULATIONS

When the Department issues any order under its Rules or Regulations, or under the Act, and mails a copy of the same by registered mail to the owner or manager concerned, with return receipt requested, it shall constitute legal notice of any such order of the Department.

(12) FORMS

The Oil and Gas Division of the Department shall prescribe and prepare all forms required under the Rules and Regulations herein and, when requested, shall furnish requisite copies of either thereof to any interested person requiring use of the same.

(13) HEARINGS—NOTICE

The Department shall have authority to call public hearings or private hearings involving interested parties concerning matters pertaining to oil and gas activities.

(A) PUBLIC HEARINGS

A notice of public hearing as provided by the aforementioned Act shall be given by publish-

ing one (1) notice of the time and place thereof in at least five (5) newspapers of general circulation within the main oil-producing counties of Illinois, and such notice shall be published at least ten (10) days prior to the date of such hearing.

(B) PUBLISHER'S CERTIFICATE

Whenever notice of a hearing or Departmental action is required to be published in a newspaper of general circulation, each publisher of the newspaper publishing said notice shall file with the Department a copy of the published notice with an affidavit setting forth the date such notice was published in said newspaper.

(C) OTHER HEARINGS

A notice of hearings other than public hearings may be given by mailing a notice of the time and place of such hearing, by registered mail, with a return receipt requested, to the last known address of all persons concerned in the matter to be heard. Such notice shall be mailed at least ten (10) days prior to the date of the hearing.

In addition to such notice, the Department may publish a notice of such hearing, in one (1) issue, of one (1) or more newspapers in or near the vicinity of the area involved in the matter to be heard.

RULE II

PERMITS

(1) GENERAL PROVISIONS

All applications for permits shall conform or be subject to the following requirements:

(A) APPLICATION TO BE FILED

All applications for permits shall be signed by the owner or manager or by a person authorized to sign for such owner or manager or by a member of an established firm, partnership, or association. Any person may sign for a corporation who is duly authorized so to do. Persons so authorized shall either sign personally or as attorney in fact. If such person signs as an attorney in fact, then a certified copy of the power of attorney shall accompany the application, unless one has been previously filed with the Department.

If the application is signed by the manager, he shall furnish the Department with a signed statement accompanying the application that he is the managing operator of the well and will be solely responsible for any and all violations of the Illinois Statutes and the Department's Rules and Regulations in the drilling, testing, completion, operation, and plugging of the well. The manager's responsibility for violations ceases if a new manager is appointed and furnishes the Department with a signed managing operator's statement, as above provided.

(B) COPY OF EVIDENCE OF OWNERSHIP TO BE ATTACHED

No person shall be issued a permit for any purpose unless he has custody and control of the lands involved, either by being the fee owner

or by having a valid lease or agreement with the owners of the right to drill for oil and gas on the lands in question, proof of which shall be submitted by the applicant, by either attaching to the application certified copies of the original instruments or photostatic copies thereof, or, at the election of the applicant, by submitting a form to be furnished by the Department, setting forth all such pertinent facts, which shall be subscribed and sworn to by the applicant, who shall certify the facts contained therein are true.

(C) WHEN PERMIT TO BE ISSUED

No permit shall be issued by the Department until the applicant has fully met all requirements and the application is approved by the Department.

(D) PERMIT ISSUED TO OWNER OR MANAGER

All permits shall be issued by the Department in the name or names of the person, firm or corporation for whom the application is made and who furnishes the bond.

(E) PERMIT POSTED AT WELL SITE

When fee permits are required no person shall commence drilling operations until the permit has been issued by the Department and the original, a duplicate or a photostatic copy thereof posted at the well site.

(F) AUTHORITY TO DENY PERMIT

The Department shall have authority to deny a permit to any person, when such person is in violation of the aforementioned Act or any valid and lawful Rule, Regulation or Order adopted or promulgated by the Department.

(G) PERMITS NOT TRANSFERABLE

Permits issued under the Act are not transferable.

(2) APPLICATION FOR PERMIT TO DRILL OR DEEPEN WELL

(A) REQUIREMENTS

Before any person shall spud in or commence the actual drilling of any well for the discovery of oil or gas or commence operations to deepen any well to a different geological formation, such person shall file with the Oil and Gas Division of the Department, an application for a permit to drill or deepen such well on such form as the Department shall require.

(B) DRILL OUT OR DEEPEN PLUGGED WELL

In order to drill out or deepen a previously plugged well, the same requirements shall apply as stated in Rule II (2) (A) except that no permit shall be issued to drill out or deepen a previously plugged well which is located less than 330 feet from the two nearest external boundary lines of the drilling unit. Exceptions shall be granted when the plugged well adjoins or is on that part of a leasehold on which secondary recovery operations are now or hereafter established.

(C) CONTENTS OF APPLICATION

The application for a permit shall include the following information, viz:

The name of the leasehold and exact location, by plat, of the well proposed to be drilled or deepened and the approximate location of producing wells previously drilled to the same formation on said leasehold, together with the name and approximate location of the offset well or wells on adjoining leaseholds, and a statement as to whether or not such proposed well location is within the limits of any incorporated city, town, or village.

Applications for permits shall be certified to by a registered Illinois land surveyor or registered professional engineer who works for the extraction of minerals from the earth.

The application shall include the names and addresses of lessor, lessee, owner, or manager and the person responsible for the conduct of drilling operations, and the name of the contractor, if available. The application shall also indicate the type of drilling tools or equipment to be used and the lowest proposed depth and geological formation to be tested.

When the applicant is not the individual owner or manager, if the applicant is a partnership, firm, association, or corporation, and if a corporation, whether its charter authorizes oil operations. If an assumed business name is used, whether it is registered as provided by the Illinois Statutes, giving county of registration.

(D) FEE

The applicant shall remit with the application to either drill, or deepen a well to a different geological formation, a fee of twenty-five dollars (\$25.00) by check, draft, Post Office or Express Money Order payable to the State of Illinois and shall give bond as hereinafter provided.

(E) EXPIRATION OF PERMIT

All permits shall be issued to cover a period of one (1) year from the date of issue and shall expire at that time unless acted upon prior thereto by the commencement of drilling operations at the location specified in said permit, and the drilling operations shall be continued with due diligence until the well is completed as a producer or has been completed at the authorized formation named in the permit; provided always that the Department shall have the authority to revoke a permit when the Department finds

that any fraud, deceit, or misrepresentation was made to obtain the issuance of said permit.

Each such permit shall expire before the period of one (1) year from date of issue when and as the permittee has completed the work specified in such original permit and the well is abandoned as a dry hole or the terms of the lease on the lands in question expire by their own limitation or the lease is canceled or forfeited in the manner provided by law.

In the event the well for which a permit was issued be productive of oil or gas, then such permit shall continue in full force and effect so long as oil or gas or other petroleum products are produced, saved, or marketed therefrom.

(F) CHANGE OF LOCATION

If a permittee requests a change of location for the drilling of the well before its completion and such change is upon the same lease and is not over thirteen hundred and twenty (1320) feet from the original location and such proposed change meets with the approval of the Department, the permittee shall return the original permit together with an amended application for such change of location.

(G) DIRECTIONAL DRILLING

In controlled directional drilling when the intent is to direct the bottom of the well bore away from the vertical position, in addition to an application for a well permit the applicant shall furnish the Department with the proposed direction of deviation and proposed horizontal distance between the bottom of the well bore and the surface location. If a permit is issued by the Department, the permittee shall file with the Department, within thirty (30) days after the completion of the well, a certified accurate and complete copy of the directional survey of said well. No person, company, or organization shall

direct, or assist in directing, any well bore away from the vertical position until the Department has issued a permit for such directional drilling.

(3) APPLICATION FOR PERMIT FOR GEOLOGICAL OR STRUCTURAL TEST HOLE

As provided by the Act, the Department shall require any person desiring or proposing to drill geological or structural test holes in connection with any operation for the exploration or production of oil or gas, to secure a permit therefor. In addition to complying with all provisions enumerated herein, the applicant shall give bond as further required by the Act, and shall also indicate the type of drilling tools to be used and the lowest proposed depth and geological formations to be tested. No permit fee is required for this type of test hole.

Mine or quarry drill or blast holes, seismograph test holes or holes drilled to explore strippable coal are exempt from the provisions of the Act. All wells drilled for water which do not penetrate the subsurface below the glacial drift are also exempt from the provisions of the Act.

(4) PERMITS FOR SALT WATER DISPOSAL OR FOR GAS, AIR, WATER, OR OTHER LIQUID INPUT WELLS

In order to prevent waste as defined in the Act, the Department shall require any person desiring to convert any well now drilled, or any person desiring to drill or deepen a well for the purpose of injecting gas, air, water, or other liquid into any underground formation or strata to secure a NO FEE permit therefor.

(A) REQUIREMENTS FOR PERMIT

In addition to complying with all provisions enumerated and required in Section (1) "GENERAL PROVISIONS" above, the applicant for a permit for a salt water disposal well

or for a gas, air, water, or other liquid input well shall provide a bond as required by the Act.

In the application for a permit for such input well, the applicant shall indicate the location of all producing oil and gas wells, drilling wells or abandoned holes, within one-half ($\frac{1}{2}$) mile radius and all mines or mined out areas or the undeveloped limits of a mine within a like distance of such proposed well, together with the names and addresses of their owners, the name and description of the substance to be injected, and the depths and formation where the proposed injection will be made. The applicant shall also submit the log of such input well if previously drilled, and description and character of casing and cementing operations behind the same, and size of hole drilled.

(B) NOTICE TO OTHER OWNERS OR MANAGERS

Every person desiring to inject any such substance into an underground formation or stratum, shall notify the owners or managers of every oil or gas well, including those drilling or temporarily abandoned, and the owner of every mine, including the mined-out and undeveloped limits of any mine, within a one-half ($\frac{1}{2}$) mile radius, by registered mail on or before the day the application is filed with the Department, and proof of such notice shall accompany said application. The name of the formation shall be included in the notice, and the approximate depth of the top and bottom of the formation to be injected is to be given. On receipt of such application and proof, the Department shall hold the application for ten (10) days pending the filing of objections. In event objection is made within such time or the Department deems a hearing should be had, notice shall be given to each objector and the applicant of the time and place designated by the Department for such hearing.

(C) AUTHORITY TO DENY PERMIT

The Department shall have authority to deny a permit when, in its judgment, there is danger of waste or when it believes the proposed protective work is not sufficient to confine the substance injected to the intended strata.

(D) AUTHORITY TO SUSPEND OPERATIONS

At any time it seems apparent that the injected substance is not being confined to the intended stratum and is migrating to other stratum or to the surface, the Department shall have authority to suspend operations and after notice and hearing to prohibit the further use of any such well for said purposes.

(5) PERMIT REQUIREMENTS IN MINE AREAS

(A) FOR WELL PENETRATING MINE

When the location of a well to be drilled for oil or gas, or any purpose in connection therewith, will penetrate an active mine or through the mined out and inaccessible or sealed off area of an active mine, or shall penetrate the same in a temporarily abandoned mine, or the undeveloped limits of any such mine property, a drilling permit shall not be issued by the Department until an agreement shall be reached between the owner of the proposed well and the mine owner, or in the event of failure to reach such an agreement a permit will not be issued until a hearing is held as hereinafter provided.

(1) AGREEMENT WITH MINE OWNER

A copy of such agreement, jointly signed by the applicant for a permit and the mine owner agreeing to the drilling of the well and the proposed location, shall be filed with the application and accompanied by a map or sketch showing the well location, its relation

to shafts and mine buildings, and to each coal seam or seams and mine workings underlying applicant's lease, or a statement from the mine owner that the location is over the undeveloped limits of the mine.

(2) REQUIREMENTS IN ABSENCE OF AGREEMENT

In the absence of such an agreement or statement, the applicant shall file with application for permit a map or sketch showing the well location, its relation to shafts and mine buildings, if any, as well as its relation to the mine workings underlying applicant's lease, with a sworn statement that a true and exact copy of application and accompanying exhibits was mailed postage prepaid to the coal company or its authorized agent in Illinois, by United States registered mail.

If within ten (10) days from the receipt of the application for permit by the Department no written objections are filed, the Department shall issue or deny the permit.

Upon the filing of objections to the issuance of the permit, the Department shall promptly set the matter for hearing and decision.

(B) REQUIREMENTS IN INACTIVE MINING AREAS

In inactive mining areas where the existence of workable coal is known to be present and the ownership of such workable coal has been recorded in the county records, the applicant for a permit to drill a well for oil and gas or to drill any well in connection with the production of oil and gas shall notify the owner of said workable coal by registered mail with return receipt requested. The notice shall show the exact location of the proposed test and the approximate depth of the formation to be tested. The Department shall be furnished with a copy of the notice at-

tached to the application for permit, with the return receipt from the owner of the workable coal or, in lieu thereof, a sworn statement that the applicant has the return receipt in his possession, giving the names and addresses of the owners of the coal rights and date of delivery of the notice.

(1) NOTICE TO MINE OWNER

No permit shall be issued to the applicant until ten (10) days have elapsed following the receipt of the registered notice by the owner of the workable coal.

(2) MAPS AVAILABLE AT WELL SITE

The permittee shall have an exact copy of the maps and sketches filed by him with the application for a permit at the well site, for the use of the Department and its representatives.

RULE III

BONDS

(1) WHEN BONDS REQUIRED—AMOUNT

As provided by the aforementioned Act, the Department shall require every person previous to the commencement of drilling for oil, gas or any other purpose in connection therewith, and every person who has created or acquired any well drilled for these purposes which has not been plugged and abandoned in accordance with the Laws, Rules, Regulations or Orders of the Department, to execute and file with the Department a bond of one thousand dollars (\$1000) for each of such wells, or in lieu thereof a blanket bond in the sum of twenty-five hundred dollars (\$2500) for all wells to provide for the compliance with the provisions of the aforementioned Act and all amendments thereof and to the Rules, Regulations and Orders of the Department issued under the provisions of said Act and all amendments thereto.

(2) KIND OF BOND—EXECUTION

(A) SURETY OR CASH BOND

When surety bonds are given they shall be executed by a responsible surety company authorized to do business in the State of Illinois.

Cash bonds on Departmental form are acceptable when accompanied by certified check payable to the State of Illinois.

(B) PERSONAL BOND

If any other type of bond is given, the principal and the surety shall be bona fide residents of Illinois. The Department is authorized to scrutinize and investigate each bond before it shall be approved or rejected, and the Depart-

ment shall have thirty (30) days to pass on the sufficiency of any such bond.

(C) EXECUTION OF BOND

The Department shall not approve any bond until it is personally signed and acknowledged by both the principal and surety, or for them by an attorney in fact with a certified copy of the power of attorney attached thereto.

(3) BOND OF MANAGER

The person, firm or corporation in whose name the permit is issued shall be named as principal on the bond and shall execute same for such well, together with a written statement to the Department that he is the manager and will be solely responsible for any and all violations of the aforementioned Act or any Rule, Regulation or Order of the Department adopted or promulgated pursuant thereto, that may occur in the drilling, operation or plugging of the well. Where the holder of a fractional working interest in the leasehold is designated as manager, he may furnish a bond.

(4) BOND FORM—APPROVAL

All bonds shall be given on a form to be prescribed by the Department and shall be subject to its approval. The Department may at any time request a new bond or additional sureties when it has reason to believe the present bond is inadequate.

(5) SURETY MAY CANCEL BOND

On thirty (30) days' written notice given to the Department, any surety may cancel a bond or remove himself as surety, and in event of such, the surety shall not be responsible under the terms of the bond beyond the thirty-(30) day period after notice is given to the Department, but shall continue to be liable for all the liabilities accruing under the bond during the period of the time he, they or it was the surety thereon.

(A) REQUIREMENTS BEFORE BOND MAY BE CANCELED

The provisions of the laws of the State of Illinois require the plugging of the well, or wells, the filling of all excavations, the removal of all concrete bases, discarded machinery and material, and restoring the surface as nearly as possible to its former condition before such well, or wells, was drilled; and such bond shall be renewed and be continued in effect until the aforesaid conditions have been fully complied with.

(6) DEPARTMENT MAY CANCEL BOND

A bond given in accordance with the provisions of this rule may, upon not less than thirty (30) days' written notice to the Department, be cancelled by the Department, upon satisfactory proof's being furnished to the Department by the principal or surety that all conditions and provisions of said bond have been fully complied with. In the event of a default by the principal in any of the conditions of the bond, the surety or sureties on such bond shall be responsible for the immediate and full compliance with the conditions of said bond.

(7) CASING PULLER'S BOND

Any person engaged in pulling casing from abandoned oil or gas wells and wells used in connection therewith, who purchases such wells for the purpose of salvaging material from the same, shall file a bond with the Department in the sum of one thousand dollars (\$1000) for an individual well or in lieu thereof a blanket bond in the sum of twenty-five hundred dollars (\$2500) to guarantee the ultimate plugging of these wells conformable with the Rules, Regulations and Orders of the Department, including the restoration of the ground conditions, such as filling the pits, leveling the well site, and cutting off surface pipe below plow depth, if the ground conditions have not previously been rectified by the prior owner of such well or wells.

RULE IV

SPACING OF WELLS

(1) GENERAL SPACING RULES

The Department shall not issue a permit for the drilling or deepening of a well for the production of oil or gas within the State of Illinois unless the proposed well location and spacing substantially conform to the following:

(A) WELLS DRILLED OR DEEPEINED TO SANDSTONE OR LIMESTONE FORMATIONS

(1) The well shall be located not less than 330 feet from the two nearest external boundary lines of a drilling unit which shall be established by the Department and shall consist of:

- (a) a minimum of ten (10) acres of surface area to an individual well drilled or deepened for the production of oil or gas from a sandstone formation, or
- (b) a minimum of twenty (20) acres of surface area to an individual well drilled or deepened for the production of oil or gas from a limestone formation;

provided, however, the Department may permit the allocation of greater acreage to an individual well than that above specified whenever the Department deems it to be practical or expedient so to do.

(B) DRILLING UNIT

(1) The drilling unit for a well to be drilled or deepened for the production of oil or gas from a sandstone formation shall consist of ten (10) acres of surface area lying within the

quarter-quarter-quarter section of land as established by the official United States Public Land Survey made pursuant to the provisions of an act of Congress.

(2) The drilling unit for a well to be drilled or deepened for the production of oil or gas from a limestone formation shall consist of twenty (20) acres of surface area lying within the east-west or north-south one-half of a quarter-quarter section of land as established by the official United States Public Land Survey made pursuant to the provisions of an act of Congress.

(C) SEPARATELY OWNED TRACTS WITHIN DRILLING UNIT

(1) When two or more separately owned tracts of land are embraced within a proposed drilling unit, the Department shall establish the boundary lines of such drilling unit and shall require the owners of any interest in the oil and gas underlying such separately owned tracts to integrate their interests and develop said lands as a drilling unit before a permit is issued to drill or deepen a well thereon for the production of oil or gas.

(2) In the event the owners of any interest in the oil and gas underlying such separately owned tracts in a proposed drilling unit have not agreed to integrate their interests and develop said lands as a drilling unit, then such owners of either tract may file with the Department an application for a permit to drill or deepen a well for the production of oil or gas. The applicant shall furnish all pertinent data and information requested or required by the Department. Whereupon the Department shall, after notice to all parties in interest and hearing on said application, enter an order either approving or denying said application; and, if approved, the Department shall, by said order,

require the integration of such separately owned tracts in the established drilling unit and may in said order allocate a portion of the production to the owner of each tract and designate the owner or operator to develop and operate the integrated unit.

(D) TWIN WELLS

Twin wells may be drilled on a drilling unit to different sandstone or limestone formations, allocating the acreage in the drilling unit for each producing formation as above provided.

(E) WELLS WITHIN CORPORATE LIMITS

In any city, village, or incorporated town which has not enacted or does not hereafter enact an ordinance or resolution limiting the locating or spacing of wells drilled for the production of oil or gas, only one (1) permit per pool for each block shall be issued by the Department. If the location of the well is on a partial block already surveyed and platted for a city, village, or incorporated town, the applicant for a permit to drill or deepen a well for the production of oil or gas shall communitize this partial block with an adjoining block before a permit will be issued. A certified copy of the official consent of the municipal authorities to drill or deepen a well located within the limits of any city, village, or incorporated town must accompany the application for permit. A certified copy of consent of the municipal authorities is also required for an amended location.

(F) EXCEPTIONS

(1) Whenever the topographical conditions of a drilling unit render it impractical, without unreasonable expense, to drill a well at a location in conformity with the spacing rules, the Department may alter the location after investigation and verification of the topographical conditions.

(2) In those areas where the U. S. Government

has not made an official survey, in areas covered by the old French Surveys and Grants, in meandered lands, in government lots, and in subdivisions thereof where the acreage in quarter-quarter-quarter sections and quarter-quarter sections does not conform to the spacing and drilling requirements of the law and the rules and regulations, the Department shall have the authority to establish drilling units and to grant exceptions for wells when such drilling units are approximately ten (10) acres for sandstone horizons and twenty (20) acres for limestone horizons and will not cause a greater well density than would be encountered in regular official surveys.

(3) In case of irregular sections containing more or less than 640 acres, the Department shall have the authority to allow exceptions or create units other than quarter-quarter-quarter sections in sandstone horizons and other than half quarter-quarter sections in limestone horizons so as to allow approximate units of ten (10) acres in sandstone and twenty (20) acres in limestone horizons in order to absorb the entire acreage in such sections into units as aforesaid.

(4) Gas, air, water, or other liquid input wells, salt water disposal wells, and structure tests are exempt from any spacing requirements.

(5) In order that a proposed well may be located over an existing or proposed pillar of a mine property, the foregoing spacing requirements may be waived by the Department when the well to be drilled or deepened for oil or gas will penetrate an active mine, the mined-out or inaccessible portion of an active mine, a temporarily abandoned mine, or the undeveloped limits of any such mine property.

(6) Each person desiring the Department to grant an exception for a reason other than those specified in Paragraphs (1), (2), (3), (4), and (5) of this Section (F) shall submit with his ap-

plication for permit a statement setting forth the desired exception and the reasons or necessity therefor, and giving in detail the action the applicant has taken in such matter. The applicant shall notify, by registered mail on or before the day the application is filed with the Department, the owner or manager of every oil and gas well within one-half ($\frac{1}{2}$) mile radius of the proposed well location, and proof of such notice shall accompany said application. Upon receipt, the Department shall hold such application and proof of notice ten days for possible objections. In the event objection is made within such time or the Department deems a hearing should be had, the Department shall give notice to each owner or manager listed in the proof of notice, and to the applicant, of the date and place designated by the Department for such hearing. After such hearing the Department shall either issue or deny the permit.

(2) SECONDARY RECOVERY

Spacing regulations for oil wells will not be waived in areas where the applicant declares an intention to undertake a proposed secondary recovery operation, until one or more input wells are first drilled or other wells are actually converted to input wells after permits have been issued for such conversion.

(A) PATTERN FLOOD

(1) When an applicant applies for a permit to drill or deepen an oil well at a location which complies with the regular spacing requirements set out in Rule IV (1) (A), a permit shall be issued by the Department.

(2) When an applicant applies for a permit to drill or deepen an oil well using the same spacing pattern as that used in an adjacent pattern flood, a permit shall be issued by the Department.

(3) When an applicant applies for a permit to drill or deepen an oil well at a lesser distance to the boundary lines of his leasehold than are the existing oil wells in an adjacent pattern flood, the applicant shall notify, by registered mail, the owners or managers of oil wells in the established secondary recovery projects within one-half mile of the proposed well, stating his intentions as described in his application for a permit. A copy of the notification will be held by the Department ten days after its receipt with the application for a permit. If no written objections are received by the Department from the operators so notified, the permit shall be issued. If written objections are received by the Department within the ten-day period, the Department shall call a hearing to determine the merits of issuing such a permit. After such hearing the Department shall either issue or deny the permit.

(B) OTHER FLOODS

(1) When the spacing of oil wells and/or input wells is not based on a geometric arrangement, as defined in the definition of a pattern flood, the following shall apply:

- (a) When the location of the proposed oil well requested complies with the regular spacing requirements set out in Rule IV (1) (A), a permit shall be issued by the Department.
- (b) When the location of the proposed oil well requested does not comply with the regular spacing requirements set out in Rule IV (1) (A), the applicant shall notify, by registered mail, the owners or managers of oil wells within one-half mile of the proposed well, stating his intentions as described in the application for a permit. A copy of the notification will be held by the Department ten days after its receipt with the application for a permit. If writ-

ten objections are received by the Department within the ten-day period, the Department shall call a hearing to determine the merits of issuing such a permit. If no written objections are received by the Department from the operators so notified, the Department shall either issue a permit or, at its discretion, call a hearing to determine the merits of issuing such a permit. If a hearing is held, the Department shall subsequently either issue or deny the permit.

(C) RECORD TO BE KEPT

If any owner or manager of a leasehold adjoining a secondary recovery project files with the Department a verified complaint stating that he has reasonable grounds to believe secondary recovery operations are being conducted on the offset leasehold in such manner as to violate or impair his right to recover the oil or gas underlying his leasehold premises, the Department may require the owner or manager of such secondary recovery project to submit to the Department his or its records and data showing the average production from said leasehold, the formation or formations subjected to such secondary recovery operations, and the daily injection volume and pressure of each input well thereon, during the period of two full calendar months preceding the filing of such complaint. If such records have not been kept by such owner or manager, the Department may require that the same be kept for a specified period of time, not to exceed two full calendar months, and furnished to the Department. The information or data submitted by the owner or manager of such secondary recovery project shall be confidential except that the Department may exhibit the same to the complainant. This rule shall not be construed to prevent the Department from taking any other action au-

thorized by the Act which it may deem necessary in order to prevent waste.

(3) NONCONFORMING WELL TO BE
PLUGGED

Any well drilled in violation of the permit issued therefor shall not be allowed to produce oil or gas, but after notice and hearing by the Department the said well shall be plugged and abandoned unless an exception be granted by the Department.

RULE V

FILING OF LOGS AND WELL INFORMATION

(1) RETURN OF COMPLETION CARD

A completion card will be attached to each drilling permit issued by the Department. Upon completion of the well for which the permit is issued, the owner, manager, or operator of said well shall furnish the information requested thereon, and shall mail the same promptly, addressed to the Oil and Gas Division of the Department of Mines and Minerals, Springfield, Illinois.

(2) WELL LOG TO BE FILED

The Department shall require any owner or manager, as defined by the Act, of any well drilled for oil or gas, to file a log of strata encountered in said well and also an electric log, if one has been made, and time log if requested, in the office of the State Geological Survey, Division of the Department of Registration and Education, Urbana, Illinois, within three (3) months after the completion of said well.

(3) CONTENTS OF WELL LOG

Such logs shall show :

(A) The name, number, location and elevation of the well in accordance with the description required by the Department in the application for the permit to drill such well;

(B) The name, character, depth and the thickness of the formations passed through or encountered in the drilling of such well and the depth and thickness of each oil-, gas-, or water-bearing formation or strata encountered;

(C) The depth and thickness of coal beds and deposits of mineral materials of economic value;

(D) The results on completion, whether the well was dry or productive of oil or gas, and if productive, the initial production;

(E) If fresh water has been encountered, the approximate capacity;

(F) The elevation above mean sea level of the point from which the depth measurements are made, stating its height above ground level at the well.

The correctness of the log shall be subscribed and sworn to before a notary public, that the statements contained therein are true.

When requested in writing by the owner, any or all information contained in any such log hereby required will be kept confidential until released in writing by the owner thereof or his legal representatives after its lodgment in the office of the State Geological Survey; however, no such information shall be kept confidential for more than one (1) year from the date of issue of the drilling permit for the particular well.

(4) COLLECTION OF DRILL CUTTINGS

As provided by the Act, the Department shall notify the person or persons to whom any permit is issued, at the time of the issuance thereof, either to collect or not to collect for the State Geological Survey, drill cuttings representing each run drilled in cable tool wells and each ten (10) feet of distance drilled and drilling time in rotary wells. When so notified by the Department to collect such cuttings hereby required, the permittee shall obtain containers for such cuttings, and information as to the approved method of collecting drill cuttings from the State Geological Survey, Urbana, Illinois.

RULE VI

IDENTIFICATION OF LEASES AND TRANSFER OF MANAGEMENT

(1) LEASE AND WELL IDENTIFICATION

To identify all producing leases the owner or manager thereof shall cause a sign to be placed where the principal lease road enters the lease and such sign shall show the name of the lease and the owner or manager thereof and the section, township and range.

A legible numeral shall be attached or painted on pumping unit or jack of each well or a legible sign placed near the well to identify the well number.

(2) TRANSFER OF MANAGEMENT

The Department shall be notified within ten (10) days after the transfer of each change of management of a producing oil and gas leasehold estate or fee production.

RULE VII

WASTE PROHIBITED

(1) AVOIDABLE WASTE OF GAS

In drilling any well, if a gas sand or stratum is penetrated, the hole must not be left open so that an avoidable escape of gas, which in the opinion of the Department constitutes waste, will occur during further drilling in or through such stratum or during temporary abandonment of the well. The Department may require mud-laden fluid to be applied, or the gas stratum cased off, or any suitable method adopted which will arrest such escape of gas.

Gas produced in connection with the production of oil shall be burned in flares where there is no market at the well for escaping gas. The operators of casinghead gas plants operated for the extraction of liquid hydrocarbons from the gas shall burn the residue gas in flares when no market exists at such plant for the residue gas or when the gas is not returned to an oil pool or field for pressure maintenance or repressuring of the oil pool or field.

(2) ESCAPE OF UNBURNED GAS PROHIBITED

The escape of unburned gas from any well into the air or atmosphere is hereby prohibited. All such surplus gas, not otherwise utilized, shall be burned at a safe distance from any well, storage tank or building.

(3) BURN-OFF PITS

To prevent fire hazards and waste from waste oil, the same shall be collected in burn-off pits which shall be located a safe distance from oil storage tanks, buildings, or other structures, and shall be

burned as often as necessary to prevent overflowing. Such pits shall be constructed to prevent the escape of oil therefrom, and shall have a continuous wall completely surrounding the pit of sufficient height above the surface to prevent surface water from running into the pit. Earthen pits will be permitted at locations where the soil is heavy and tight, but shall be prohibited in locations where the soil is porous and closely underlaid by either gravel or sand strata.

(4) LEASE TANK RESERVOIRS

When it is deemed necessary by the Department to protect life, health or property, the Department may require any lease or oil storage tanks to be surrounded by an earthen dike which shall have a capacity of one and one-half ($1\frac{1}{2}$) times the capacity of the tank or tanks it surrounds, which dike shall be continually maintained; and the reservoir within shall be kept free from vegetation, water or oil.

(5) FIRE HAZARDS AT WELL LOCATIONS

All well and tank locations shall be kept free of dead grass, brush, weeds and other inflammable material and so maintained at all times.

RULE VIII

PROTECTION OF WORKABLE COAL BEDS

To prevent waste, the Department shall protect workable coal beds in the drilling, casing, and plugging of wells drilled for oil or gas, or for any other purpose in connection therewith.

(1) WORKABLE COAL BEDS DEFINED

All coal beds or seams thirty (30) inches or more in thickness less than one thousand (1000) feet below the surface shall be determined as workable. When any well drilled for oil or gas, or to be used in connection therewith, penetrates such coal seams or ceases to be used for the purpose drilled, such coal seams shall be protected as herein provided.

(2) DEPARTMENT MAY DETERMINE PRESENCE OF COAL SEAMS

The Department shall have authority to determine when workable coal beds or seams are present, by geological data obtained from the State Geological Survey, or other relevant information which would indicate the presence of workable coal beds or seams underlying the well site.

When the presence of any coal strata or seam is disputed by the owner or manager of a well, and such condition is contrary to the geological information possessed by the Department, such contention of the owner or manager shall be supported by an affidavit on a form prescribed and furnished by the Department, which affidavit shall be executed by a geologist or other person qualified and competent to determine the presence of such disputed coal strata or seam. When such affidavit has been filed with the Department, it shall have authority

to determine the issue, after obtaining all further geological information possible, or if the Department deems expedient, it may on its own motion, call a hearing to be held as herein provided to determine such facts.

(3) WELL LOCATIONS PROHIBITED

No well for oil or gas shall be drilled within two hundred fifty (250) feet from any opening of an active coal mine used as a means of ingress or egress for the persons employed in such mine, or which is used as an air shaft, except by mutual agreement between the person owning or operating the mine and the oil or gas operator.

(4) NOTICE TO DEPARTMENT

At least twenty-four (24) hours prior to reaching the depth of mine workings or the undeveloped limits of the mine, the person in charge of drilling operations shall notify the Department or Departmental Representative and the mine representative of the time when such well shall reach such point, in order that the Department may have a Departmental Representative present on the well site at such time.

(5) CASING AND PROTECTIVE WORK

Whenever the Rules and Regulations require a mine string to be set in a mine area, the casing used inside the mine string shall be new.

Any protective work required in a mine area shall be under the supervision of the Department.

(6) OPERATIONAL REQUIREMENTS OVER ACTIVE MINE

(A) DEPARTMENT TO DETERMINE SAFETY FACTORS

No well shall be drilled into any coal mine or mine workings in any active mine until the Director or Departmental Representative is present

and determines that the mine or mine workings are safe.

Until the Director or Departmental Representative is satisfied that adequate protection has been provided so that no hazard exists, drilling operations shall be suspended. After any protective or corrective work, required by the Director or Departmental Representative, has been satisfactorily completed by the well owner, manager or his representative, drilling operations may be ordered resumed; but if in the opinion of the Director or Departmental Representative it is impossible to adequately protect the mine or mine workings, he shall order the permit revoked and the well plugged in the manner hereinafter provided.

(B) DRILLING METHODS AND PROCEDURE

(1) GENERAL

All wells drilled through an active coal mine or through an abandoned portion of an active mine shall be located if possible in order to pass through an adequate pillar.

(2) MINE PROTECTIVE STRING

Whether drilled through a pillar or not, a mine string of casing of good quality shall be set to protect the mine. The mine string shall be treated with a heavy impervious coating of asphalt, plastic, or other acid-resisting material from fifty (50) feet above the mine roof to a point fifty (50) feet below the mine floor or base of coal seam.

The outside diameter of the mine string shall be at least four (4) inches smaller than the diameter of the well bore and equipped with centralizers or similar mechanical device above and below the coal seam. The mine string shall be set at an approximate depth of fifty

(50) feet below the base of the coal seam and cemented from the casing seat to the surface.

If the mine string misses a pillar and is set through an open room of an active mine or the abandoned portion of an active mine, an umbrella, basket, or packer must be used on the mine string to set above the mine roof and the mine string shall be cemented from the casing seat to the mine floor and also cemented from the umbrella, basket, or packer set above the mine roof to the surface.

(3) CEMENTING OIL STRING

The outside diameter of the oil string shall be at least three (3) inches smaller than the inside diameter of the mine string when set through a pillar, and the outside diameter of the oil string shall be at least four (4) inches smaller than the mine string when set through an open room and equipped with centralizers, or similar mechanical devices, immediately above and below the coal seam. The centralizers shall be so spaced as to be within the mine string of casing.

The oil string shall be surrounded with cement from the casing shoe to the surface, or the oil string may be cemented using multiple-stage cementing tools, as hereinafter provided.

When the multiple-stage cementing method is used, at least one hundred (100) sacks of cement shall be placed around the casing shoe and the multiple-stage cementing tool placed one hundred (100) feet below the floor of the mine and cemented from that point to the surface.

In areas where thief zones or high permeability horizons occur below the level of the mine, the Department may require multiple-stage cementing tools to be used in the cementing of the oil string in order to assure protection for the mine.

(4) TEMPERATURE SURVEY REQUIRED

When drilling through mined out areas which are not accessible, and, if, in the opinion of the Director, or his representative, it is necessary, a self-registering thermometer shall be lowered to the mined out level, and if the recorded temperature shows the possibility of fire at or near the position of the hole, the drilling permit shall be revoked and the hole plugged, as herein required.

(C) SHOOTING WELLS OVER ACTIVE MINES OR WORKED OUT PORTIONS OF ACTIVE MINES

(1) SHOT LESS THAN FIFTY (50) QUARTS

When any well is located over or penetrates an active mine or worked out portions of an active mine, before shooting the oil-bearing formation, the well owner or manager shall proceed as follows:

- (a) Notify the Department or Departmental Representative at least twenty-four (24) hours in advance of the time the shot is to be fired.
- (b) Notify the mining company at least twenty-four (24) hours in advance of the time the shot is to be fired.
- (c) Tamp the shot with a minimum of sixty (60) feet of tamp, at least the top thirty (30) feet of which shall be of impervious material, being sure that the top of the tamp extends to a place in the hole opposite solid rock formation. Fill the hole to the top with fluid of consistent viscosity and specific gravity.

(2) SHOT EXCEEDING FIFTY (50) QUARTS

When the charge exceeds fifty (50) quarts of nitroglycerin :

- (a) Apply to the Department for permission to shoot, indicating the size of charge to be used.
- (b) In the absence of written authority from the coal company for the specific shot, the Department shall :
 - (1) Immediately upon receipt of application notify the coal company indicating location of well and size of charge to be used.
 - (2) If no objection is filed by the coal company within twenty-four (24) hours, the Department shall give permission to fire the shot.
 - (3) If coal company objects, the Department shall within twenty-four (24) hours of receipt of said objection set matter for hearing and determination in county where well is located.
- (c) Extend the tamp with impervious material ten (10) feet beyond the minimum tamp of sixty (60) feet for each additional ten (10) quarts of charge used, being sure that the top of the tamp extends to a place in the hole opposite solid rock formation. Fill the hole to the top with fluid of consistent viscosity and specific gravity.

RULE IX

DISPOSAL OF SALT WATER OR OTHER LIQUIDS TO PREVENT WASTE AS DEFINED IN THE ACT

To prevent waste, no person shall dispose of salt water or other waste liquids except in the following manner. Any other method of disposal is hereby prohibited.

(1) DEPARTMENTAL SUPERVISION

When salt water or other waste liquid is not properly impounded or is being improperly disposed of, the Department shall order such improper condition corrected when it is determined that the disposal method used pollutes fresh water supplies, creates a hazard, or is injurious to life, health or property.

(2) DISPOSAL IN UNDERGROUND STRATUM

Salt water or other waste liquids may be disposed of into an underground formation or strata after a permit to do so has been procured from the Department as hereinbefore provided. The Department shall have authority to designate and approve the stratum into which such liquids shall be disposed of, also the protective work necessary to confine such liquids to the intended stratum. All such work shall be executed under the supervision of a Departmental Representative and shall conform to the requirements imposed in granting the permit therefor.

(3) DISPOSAL IN EARTHEN PITS

Salt water or other waste liquids may also be disposed of by evaporation when impounded in

excavated earthen pits, which may only be used for such purpose when the pit is underlaid by tight soil such as heavy clay or hardpan.

Where the soil under the pit is porous and closely underlaid by a gravel or sand stratum, impounding of salt water or other waste liquids in such earthen pits is hereby prohibited. When such liquids are impounded in an earthen pit, it shall be so constructed and maintained as to prevent escape of such liquids therefrom.

The Department shall have authority to condemn any pit which does not properly impound such liquids and order the disposal of such liquids into an underground formation, as herein provided.

The level of salt water or other waste liquids in earthen pits shall at no time be permitted to rise above the lowest point of the ground surface level. All pits shall have a continuous embankment surrounding them sufficiently above the level of the surface to prevent surface water from running into the pit. Such embankment shall not be used to impound salt water or other waste liquids.

At no time shall salt water or other waste liquids impounded in earthen pits be allowed to escape over adjacent lands or into streams.

(4) PIPES TO BE KEPT IN REPAIR

A pipe conveying such liquids to any salt water disposal well or pit shall be kept in good repair and free from leaks, and no outlet valve will be permitted in such pipe between the place of origin and discharge.

RULE X

VACUUM

The use of vacuum pumps or other devices for creating a vacuum on any oil- or gas-producing stratum is hereby prohibited until the owner or manager has complied with the following requirements :

(1) APPLICATION FOR USE OF VACUUM

On or before the date of filing an application by letter for the use of vacuum on any leasehold, the applicant shall notify, by registered mail, all other persons owning or managing producing oil or gas wells located within one-half ($\frac{1}{2}$) mile radius of the well or wells where the use of vacuum is proposed, and shall set out in the notice the proposed strata or formation and exact location of the well or wells to be affected by the application or use of such vacuum. The applicant shall submit proof of such notice with the application, giving the names and addresses of all well owners or managers within such one-half ($\frac{1}{2}$) mile radius.

(2) NOTICE AND HEARING ON APPLICATION

On receipt of such application and proof of notice, the Department shall hold the same for ten (10) days pending the filing of objections, and if none is received at the end of such period, the application may be approved by the Department.

In event objection is made by the owner or manager of any well or wells producing from the same formation, which are located within one-half ($\frac{1}{2}$) mile radius of the proposed vacuum installation, and the Department deems a hearing shall be had,

notice shall be given to each objector and the applicant, of the time and place designated by the Department for such hearing.

(3) DEPARTMENTAL AUTHORITY

The Department shall have authority after notice and hearing to prohibit vacuum or to deny or revoke permission for the use of vacuum when, in its judgment, there is danger of underground waste.

The Department shall have authority to grant permission when it believes a further recovery of oil can be obtained by use of vacuum without danger of underground waste.

RULE XI

PLUGGING OF WELLS

As provided by the Act, as amended, and to prevent waste as therein defined, any owner or manager who owns, has drilled, or has acquired a nonproductive well drilled for oil or gas, or for any other purpose in connection with the exploration and production of the same, including unused input wells, salt water disposal wells, and geological or structure test holes drilled below the glacial drift, shall be required by the Department to securely plug and abandon such well in the manner herein provided, except when an extension of time has been granted by the Department in writing.

(1) DEPARTMENTAL SUPERVISION

The plugging and abandoning of wells and the consequent pulling of casing or the partial plugging back operations from one formation to another shall be under the supervision of the Department and the Departmental Representative. The Department shall have authority to prohibit the plugging of a well when the equipment used is not adequate or is insufficient, in the opinion of the Department, to perform the abandonment according to the Rules and Regulations.

When the casing in any well is not the property of the person owning the well, the owner of such casing is prohibited from pulling the same until he has notified a Departmental Representative, and then shall securely plug such well under the supervision of the Department in the same manner as the owner of the well is herein required.

(2) WHEN WELL TO BE PLUGGED

The owner or manager shall not permit any well drilled for oil, gas, salt water disposal or any other

purpose in connection with the production of oil and gas, to remain unplugged after such well is no longer used for the purpose for which it was drilled or converted.

(3) PRIOR NOTICE TO DEPARTMENTAL REPRESENTATIVE

When the owner or manager of any inactive, nonproductive or nonoperative well desires to plug such well or partially plug back to a different formation or to withdraw casing from such well, he shall notify a Departmental Representative and, if in an active coal mine area, notify the owner or operator of such coal mine at least eight (8) hours in advance of the time he expects to begin plugging or pulling casing. The commencement of such operations, including shooting off casing, is prohibited until an authorized Departmental Representative is present.

(4) OWNER TO FURNISH WELL LOG

Upon arrival of the Departmental Representative at the site of the well to be plugged or partially plugged back to a different formation, the owner or manager of the well, or his representative, shall make available to the Departmental Representative a complete log of the well, which shall show the character and depth of all formations encountered in the drilling of such well, particularly showing the depth and thickness of all oil-bearing strata, gas-bearing strata, water-bearing strata, and workable coal beds.

When no log is furnished by the owner, the Department may require the well to be filled with cement from bottom to top, or the Department may require it to be plugged in accordance with the knowledge of logs of nearby wells.

(5) PLUGGING METHODS AND PROCEDURES

(A) GENERALLY

A cement plug to protect the producing formation must be placed opposite the producing formation and extend to a point twenty (20) feet above the top of said producing formation. In cases where the history of the well shows that heavy or repeated shots in a sandstone formation, or heavy or repeated acidization in a limestone formation, render it probable that a large cavity exists within the producing formation, it is permissible to fill such cavity with sand, crushed rock, or other suitable material approved by the Department in order to provide an anchor on which to place a cement plug not less than twenty (20) feet in length above the top of such producing formation. A cement plug is to be placed below the casing seat of the oil string and extend to a point twenty (20) feet above said seat and if there is a liner that is not to be withdrawn, said cement plug shall be placed at the top of the liner and extend to a point twenty (20) feet above.

No sand, gravel, or other foreign substance shall be mixed in the slurry; however, the use of an admixture of special mud materials may be used, subject to the approval of the Departmental Representative.

(B) PROTECTION OF COAL SEAMS

Each coal seam of thirty (30) inches or more of thickness and lying above the depth of one thousand (1000) feet shall be protected by a cement plug extending one hundred (100) feet above said coal seam to a distance of fifty (50) feet below the same or to the bottom of the hole, whichever is less.

In wells penetrating an active mine or the worked out area of a mine or the undeveloped

limits of a mine property having workable coal seam or seams, a substantial support shall be provided for each cement plug required for coal seam protection. The supporting plug shall consist of wood or other suitable material having adequate strength and shall be set and tested to determine that settlement or a movement of the cement plug will not take place during the period required for the setting of the cement.

(C) SHOOTING CASING IN ROTARY HOLE

In wells originally drilled by rotary tools, before any casing is shot off or otherwise parted at a point above the casing shoe, the hole must be filled with properly prepared mud of not less than thirty-eight (38) viscosity, or other suitable material, to the point of parting. After the casing is parted and withdrawn, the hole must be completely filled with mud.

A cement plug twenty-five (25) feet in length shall be placed ten (10) feet below the base of the surface casing and extend to a point at least fifteen (15) feet above the base of surface casing. The remainder of the hole shall be filled with mud.

The surface casing shall be cut off three (3) feet below the surface of the ground and a mushroomed cement cap of approximately one (1) foot in thickness shall be placed over the casing so that the top of the mushroomed cap is at least two (2) feet below the surface of the ground. The hole shall then be filled with dirt and the surface of the ground leveled.

In the event that surface casing has not been used, a cement plug shall be placed in the hole three (3) feet below the surface to a depth of twenty-five (25) feet. A mushroomed cement cap of approximately one (1) foot in thickness shall be placed over the top of the hole so that the top of the mushroomed cap is at least two

(2) feet below the surface of the ground. The hole shall then be filled with dirt and the surface of the ground leveled.

These provisions shall not exclude the placing of cement in the producing formation or opposite workable coal seams as herein provided. The surface casing of such wells shall not be withdrawn.

(D) IN WELLS DRILLED WITH CABLE TOOLS

In wells drilled and completed by cable tools, the producing formations and all workable coal seams must be protected as heretofore provided. As each string of casing is picked up or parted, it shall be raised one joint, and then approximately one-fourth ($\frac{1}{4}$) yard of native clay or mud dropped down the casing and allowed to settle below the base of casing.

When pulling casing from wells where caving occurs which partially fills the well bore the remainder of the hole shall be plugged as herein provided.

In such cases and also in wells where formation or walls of the hole do not cave, the hole shall be filled to within twenty-five (25) feet of the surface with native clay or Bentonitic materials.

In areas where in the drilling of the well it was necessary to drive pipe for the outside string in order to prevent caving or to protect fresh water horizons or formations, this drive pipe shall be left in place and not removed.

Where drive pipe is used it shall be cut off three (3) feet below the surface of the ground and a twenty-five (25) foot cement plug run inside the drive pipe and anchored thereto.

Where surface casing has been pulled, a cement plug shall be placed at a point three (3) feet

below the surface to a depth of twenty-five (25) feet.

In either event where drive pipe is used or the surface casing has been pulled, a mushroomed cement cap of approximately one (1) foot in thickness shall be placed at a point three (3) feet below the surface of the ground and allowed to mushroom until the diameter of the cement plug is at least three (3) times the diameter of the hole drilled, then the hole shall be filled with dirt and the surface of the ground leveled.

(E) WHEN CASING LEFT IN HOLE

In wells where casing is not removed when wells are abandoned, the plugging operation shall be done in the same manner as provided for abandoning wells where casing is withdrawn.

(F) FOREIGN MATERIAL PROHIBITED

No person shall knowingly or purposely place or lodge any foreign material or substance in an unplugged well which will either fill or bridge such hole.

When foreign material has been knowingly or purposely placed in the hole the Department may require such material to be removed before plugging operations are commenced.

(G) PLUGGING BRIDGED HOLE

When in normal production or drilling operations the hole becomes plugged or obstructed because of loss of drilling tools or producing equipment which it would be impractical or impossible to remove, special consideration shall be allowed and the well shall be plugged as nearly to the aforementioned requirements as existing circumstances will permit. The exact method of plugging and the equipment lost shall be shown on the plugging affidavit.

(6) CONVERTING TO WATER WELL

When the fee owner of the surface desires to utilize a well to be abandoned for fresh water purposes, such well need not be filled above the fresh water strata or bed, but a twenty-five-foot (25) cement plug shall be placed immediately below such fresh water bed, provided, however, written authority for such use is secured from the fee owner who shall also sign and file with the Department a release form furnished by the Department, thereby releasing the owner, manager, or operator from all responsibility and statutory or other requirements for the further plugging of said well.

(7) RESTORATION OF SURFACE

The owner or manager shall, as soon as weather or ground conditions permit, upon the final abandonment and completion of the plugging of any well, clear the area around the location of all refuse material, burn waste oil, drain and fill all excavations, remove concrete bases, machinery and materials, and level the surface to leave the site as nearly as possible in the condition encountered when operations were commenced.

When the fee owner of the surface desires to utilize the pits dug in connection therewith, the fee owner shall sign and file with the Department a release form furnished by the Department, thereby releasing the owner, manager, or operator from all responsibility and statutory or other requirements for the further filling of the pits.

(8) EXTENSION OF TIME TO PLUG WELL

Upon written application for an extension of time to defer the plugging and abandonment of any unplugged well, the Department, at its discretion, may grant such extension for a reasonable period of time when good cause can be shown by the person making the application, and provid-

ing the casing is all left in the well and is in sound condition. If water was encountered which will flood oil-bearing formations exposed in the open hole, the water-bearing formation below the casing seat shall be plugged off with cement. The top of the casing shall be securely capped.

If no bond covering such well is then in effect, a bond shall be given before the extension is granted, and such bond shall remain in full force and effect until the well is plugged and the other requirements of final abandonment have been completed.

At the expiration of any extension granted, the well shall be plugged and abandoned if a further extension is denied by the Department.

(9) FILING PLUGGING AFFIDAVIT

Immediately after the plugging of any well has been accomplished, an affidavit shall be executed in duplicate and jointly signed by the owner or manager or his representative and the Departmental Representative who supervised the plugging operation. The plugging affidavit, in duplicate, on a form furnished by the Department, shall be filed in the office of the Oil and Gas Division of the Department of Mines and Minerals at Springfield, Illinois.

RULE XII

VALIDITY OF RULES AND REGULATIONS

In case any word, phrase, sentence, or other portion of these Rules and Regulations shall hereafter be declared invalid, such invalidity shall not affect the remaining portions and parts of the Rules and Regulations adopted or promulgated by the Department.

All former Rules and Regulations heretofore adopted by the Department are replaced and superseded by these Rules and Regulations upon their adoption by the Department.

DEPARTMENTAL FORMS

Form OG 10-A Rev.—Application for Authorization to Drill, Deepen or Convert a Well.

Form OG-2—Revised—Application for Salt Water Disposal Well.

Form OG-3 Revised—Application for Gas or Water Input Well For Secondary Recovery.

Surety Bond Form—For Individual Well or Blanket Bond.

Cash Bond Form—For Individual Well or Blanket Bond.

Suggested Form—Power of Attorney.

Post Card—Notice of Well Completion.

Form of—Release signed by landowner releasing operator of responsibility for filling pits.

Form of—Release signed by landowner releasing operator where top portion of well bore left unplugged for use as fresh water well.

Form for—Request to Cancel Bond.

Form of—Statement of Ownership.

Application Card—For Permit to Drill Water Well.

Not Distributed to Public:

Form O.G. 6—Well Plugging Affidavit.

Form for—Notice of Violation.

Form for—Cancellation of Bond.

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1953

STATE OF ILLINOIS

WILLIAM G. STRATTON, Governor



**AN ACT IN RELATION TO OIL,
GAS, COAL AND OTHER
SURFACE AND UNDERGROUND
RESOURCES**

AND

RULES AND REGULATIONS

DEPARTMENT OF MINES & MINERALS

B. H. SCHULL, Director

DIVISION OF OIL AND GAS

W. E. WAYLAND, Oil Conservation Supervisor

(Printed by Authority of the State of Illinois)

Revised Edition

1953

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WILLIAM G. STRATTON, Governor



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I N D E X

	Page
OIL, GAS and COAL ACT.....	3-19
RULES and REGULATIONS.....	20-72

R U L E I

GENERAL PROVISIONS	21-27
Definitions	21-23
Prevention of Waste	23-24
Jurisdiction	24
Enforcement of Act	24
Delegation of Authority	24
Right of Inspection.....	24-25
Right of Access	25
Sworn Statements	25
Additional Reports	25-26
When Rules and Regulations Become Effective.....	26
Notice of Rules and Regulations.....	26
Forms	26
Hearings—Notice	26-27
Public Hearings	26-27
Publisher's Certificate	27
Other Hearings	27

R U L E II

PERMITS	28-37
Application to be Filed.....	28
Copy of Evidence of Ownership to be Attached.....	28-29
When Permit to be Issued.....	29
Permit Issued to Owner or Manager.....	29
Permit Posted at Well Site.....	29
Authority to Deny Permit.....	29
Permits Not Transferable	29
Application for Permit to Drill or Deepen Well.....	30-33
Requirements	30
Drill Out or Deepen Plugged Well.....	30
Contents of Application	30-31
Fee	31
Expiration of Permit	31-32
Change of Location	32
Directional Drilling	32-33
Application for Permit for Geological or Structural Test Hole	33
Permits for Salt Water Disposal or for Gas, Air, Water, or Other Liquid Input Wells.....	33-35
Requirements for Permit	33-34
Notice to Other Owners or Managers.....	34
Authority to Deny Permit	35
Authority to Suspend Operations.....	35
Permit Requirements in Mine Areas.....	35-37
For Well Penetrating Mine.....	35-36
Agreement With Mine Owner.....	35-36
Requirements in Absence of Agreement.....	36
Requirements in Inactive Mining Areas.....	36-37
Notice to Mine Owner.....	37
Maps Available at Well Site.....	37

RULE III

	Page
BONDS	38-40
When Bonds Required—Amount.....	38
Kind of Bond—Execution	38-39
Surety or Cash Bond.....	38
Personal Bond	38-39
Execution of Bond	39
Bond of Manager	39
Bond Form—Approval	39
Surety May Cancel Bond.....	39-40
Requirements Before Bond May Be Canceled.....	40
Mining Board May Cancel Bond.....	40
Casing Puller's Bond	40

RULE IV

SPACING OF WELLS	41-48
General Spacing Rules	41-45
Wells Drilled or Deepened to Sandstone or Lime- stone Formations	41
Drilling Unit	41-42
Separately Owned Tracts Within Drilling Unit.....	42-43
Twin Wells	43
Wells Within Corporate Limits	43
Exceptions	43-45
Secondary Recovery	45-48
Pattern Flood	45-46
Other Floods	46-47
Record to be Kept	47-48
Nonconforming Well to be Plugged.....	48

RULE V

FILING OF LOGS AND WELL INFORMATION.....	49-50
Return of Completion Card	49
Well Log to be Filed.....	49
Contents of Well Log	49-50
Collection of Drill Cuttings.....	50

RULE VI

IDENTIFICATION OF LEASES AND TRANSFER OF MANAGEMENT	51
Lease and Well Identification.....	51
Transfer of Management	51

RULE VII

WASTE PROHIBITED	52-53
Avoidable Waste of Gas.....	52
Escape of Unburned Gas Prohibited.....	52
Burn-off Pits	52-53
Lease Tank Reservoirs	53
Fire Hazards at Well Locations.....	53

RULE VIII

PROTECTION OF WORKABLE COAL BEDS.....	54-59
Workable Coal Beds Defined	54
Mining Board May Determine Presence of Coal Seams.....	54-55
Well Locations Prohibited	55
Notice to Mining Board	55

	Page
Casing and Protective Work	55
Operational Requirements Over Active Mine.....	55-59
Mining Board to Determine Safety Factors.....	55-56
Drilling Methods and Procedure.....	56-58
General	56
Mine Protective String	56-57
Cementing Oil String	57
Temperature Survey Required	58
Shooting Wells Over Active Mines or Worked Out	
Portions of Active Mines	58-59
Shot Less Than Fifty Quarts.....	58
Shot Exceeding Fifty Quarts.....	59

RULE IX

DISPOSAL OF SALT WATER OR OTHER LIQUIDS TO PREVENT WASTE AS DEFINED IN THE ACT..	60-61
Mining Board Supervision.....	60
Disposal in Underground Stratum.....	60
Disposal in Earthen Pits	60-61
Pipes to be Kept in Repair.....	61

RULE X

VACUUM	62-63
Application for Use of Vacuum.....	62
Notice and Hearing on Application.....	62-63
Mining Board Authority.....	63

RULE XI

PLUGGING OF WELLS	64-71
Mining Board Supervision.....	64
When Well to be Plugged.....	64-65
Prior Notice to Mining Board Representative.....	65
Owner to Furnish Well Log.....	65
Plugging Methods and Procedures.....	66-69
Generally	66
Protection of Coal Seams.....	66-67
Shooting Casing in Rotary Hole.....	67-68
In Wells Drilled with Cable Tools.....	68-69
When Casing Left in Hole.....	69
Foreign Material Prohibited	69
Plugging Bridged Hole	69
Converting to Water Well	70
Restoration of Surface	70
Extension of Time to Plug Well.....	70-71
Filing Plugging Affidavit	71

RULE XII

VALIDITY OF RULES AND REGULATIONS.....	72
MINING BOARD FORMS.....	73

“An Act in relation to oil, gas, coal and other surface and underground resources.”

BE IT ENACTED BY THE PEOPLE OF THE STATE OF ILLINOIS, REPRESENTED IN THE GENERAL ASSEMBLY:

Sec. 1. Unless the context otherwise requires, the words defined in this Section have the following meanings as used in this Act.

“Person” means any natural person, corporation, association, partnership, receiver, trustee, guardian, executor, administrator, fiduciary or representative of any kind.

“Oil” means natural crude oil or petroleum and other hydrocarbons, regardless of gravity, which are produced at the well in liquid form by ordinary production methods or by the use of an oil and gas separator and which are not the result of condensation of gas after it leaves the underground reservoir.

“Gas” means all natural gas, including casing-head gas, and all other natural hydrocarbons not defined above as oil.

“Pool” means a natural, underground reservoir containing, in whole or in part, a natural accumulation of oil or gas, or both. Each productive zone or stratum of a general structure, which is completely separated from any other zone or stratum in the structure, is deemed a separate “pool” as used herein.

“Field” means the same general surface area which is underlaid or appears to be underlaid by one or more pools.

“Owner” means the person who has the right to drill into and produce from any pool, and to appropriate the production either for himself or for himself and another, or others.

“Manager” means the operator, whether the owner or not, of a well or wells drilled for oil or gas, or both.

“Department” means the Department of Mines and Minerals. “Director” means the Director of the Department of Mines and Minerals.

“Mining Board” means the State Mining Board in the Department of Mines and Minerals.

“Waste” means “physical waste” as that term is generally understood in the oil and gas industry; and further includes:

(1) the locating, drilling and producing of any oil or gas well or wells drilled contrary to the valid order, rules and regulations adopted by the Mining Board under the provisions of this Act.

(2) permitting the migration of oil, gas, or water from the stratum in which it is found, into other strata, thereby ultimately resulting in the loss of recoverable oil, gas, or both;

(3) the drowning with water of any stratum or part thereof capable of producing oil or gas, except for secondary recovery purposes;

(4) the unreasonable damage to underground, fresh or mineral water supply, workable coal seams, or other mineral deposits in the operations for the discovery, development, production, or handling of oil and gas;

(5) the unnecessary or excessive surface loss or destruction of oil or gas resulting from evaporation, seepage, leakage or fire, especially such loss or destruction incident to or resulting from the escape of gas into the open air, provided, however, it shall not be unlawful for the operator or owner of any well producing both oil and gas to burn such gas in flares when such gas is, pursuant to the other provisions of this Act, lawfully produced, and where there is no market at the well for such escaping gas; and where the same is used for the extraction of casinghead gas, it shall not be unlawful for the operator of the plant after the process of extraction is completed, to burn such

residue in flares when there is no market at such plant for such residue gas;

(6) permitting unnecessary fire hazards;

(7) permitting unnecessary damage to or destruction of the surface, soil, animal, fish or aquatic life or property from oil or gas operations.

Sec. 1.1. Waste as defined by this Act is prohibited.

Sec. 1.2. The Oil and Gas Board, in the Department of Mines and Minerals, shall be subject to call of the Mining Board for advice and consultation concerning:

1. The interpretation of rules, regulations, and laws affecting the conservation of oil and gas.

2. The promulgation of new rules and regulations pertaining to the conservation of oil and gas.

3. Technical information and operations concerning the improvement of methods, conditions, and equipment for the production of oil and gas.

4. The proper drilling, casing and plugging of oil wells.

5. The issuing of proper permits to drill oil and gas wells.

6. Any and all other subjects about which the Mining Board should seek information in relation to the oil and gas industry, except in situations involving drilling or operations through veins or seams of mineable coal, in which situations the entire authority and discretion shall remain in the Mining Board.

Sec. 2. The provisions of this Act shall not apply to mine or quarry drill or blast holes, nor to seismograph test holes, or to holes drilled to explore strippable coal.

The provisions of this Act shall not apply to geological or structure test holes, except that notification of intent to drill shall be filed with the Mining Board, and permit shall be obtained as provided in clause (2) of Section 6 of this Act and except that all geological or structure test holes drilled

below the glacial drift shall be plugged under the supervision of the Mining Board.

All wells drilled for water, except those which penetrate the subsurface below the glacial drift, are excepted from the provisions of this Act.

Sec. 3. The Mining Board shall be charged with the duty of enforcing this Act and all rules, regulations and orders promulgated in pursuance of this Act.

The Mining Board may authorize, in writing, any employee of the Department, qualified by training and experience, to perform in the Board's stead the powers and duties set forth in this Act, which do not require the exercise of administrative discretion.

Sec. 4. The Mining Board shall have jurisdiction and authority over all persons and property necessary to enforce effectively the provisions of this Act.

Sec. 5. The Mining Board shall have the authority and it shall be its duty, to employ all necessary personnel to carry out the provisions of this Act; to fix their compensation; to designate their headquarters and to define their duties. The aforesaid personnel shall be exempt from the provisions and regulations of the State Civil Service Act.

Sec. 6. The Mining Board shall have the authority to call hearings, to make, after hearing and notice as hereinafter provided, such reasonable rules, regulations, and orders as may be necessary from time to time in the proper administration and enforcement of this Act, including Rules, Regulations and Orders for the following purposes: (1) to require the drilling, casing and plugging of wells to be done in such a manner as to prevent the migration of oil or gas from one stratum to another; to prevent the intrusion of water into oil, gas or coal strata; to prevent the pollution of fresh water supplies by oil, gas or salt water, (2) to require the person desiring or proposing to drill any well in search of oil or gas, before commencing the drilling of

any such well, to make application to the Mining Board upon such form as the Mining Board may prescribe and to comply with the following provisions, viz: The drilling of any well is hereby prohibited until such application is made and the applicant is entitled to a permit therefor as provided by this Act; each application for a well permit shall indicate the exact location of such well, the name and address of the manager, operator, contractor, driller, or any other person responsible for the conduct of drilling operations, the proposed depth of the well, and such other relevant information not involving ownership as the Mining Board may deem necessary or convenient to effectuate the purposes of this Act; each applicant previous to drilling for oil or gas or any other purpose in connection therewith, and each manager or operator who has acquired or may hereafter acquire any well drilled for these purposes which has not theretofore been plugged and abandoned in accordance with the laws, rules, regulations and orders of the Mining Board, shall execute and file with the Mining Board a bond of \$1,000.00 for each of such wells, or in lieu thereof, a blanket bond in the sum of \$2,500.00 for all wells, provided that, nothing herein shall be construed to require more than one bond for such well at any one time, although successive bonds may be required until the well is abandoned and plugged; and each of such bonds shall be approved by the Mining Board on a form to be prescribed by the Mining Board, and shall provide for the compliance of plugging such well, or wells, the filling of all excavations, the removal of all concrete bases, discarded machinery and material, and restoring the surface as nearly as possible to its former condition before such well, or wells, was drilled; and such bond shall be renewed and be continued in effect until the aforesaid conditions have been fully complied with. In event of the assignment and transfer of the property covered by any bond, it shall remain in full force and effect

until the approval by the Mining Board of a similar bond which has been executed by the new owner and filed with it. (3) To require the filing of logs, including electric logs, and drilling records, and the lodgment in the office of the State Geological Survey of typical drill cuttings or cores, if cores are taken, within 30 days from the time of the completion of any well. (4) To prevent "blow-outs," "caving" and "seepage" in the same sense that conditions indicated by such terms are generally understood in the oil and gas business. (5) To prevent fires. (6) To ascertain and identify the ownership of all oil and gas wells, producing leases, refineries, tanks, plants, structures, and all storage and transportation equipment and facilities. (7) To regulate the secondary recovery in oil pools and oil fields. (8) To regulate or prohibit the use of vacuum. (9) To regulate the spacing of wells, the issuance of permits, and the establishment of drilling units. (10) To regulate directional drilling of oil or gas wells. (11) To regulate the plugging of wells. (12) To require that wells for which no logs or unsatisfactory logs are supplied shall be completely plugged with cement from bottom to top. (13) To require a description in such form as is determined by the Mining Board of the method of well plugging for each well, indicating the character of material used and the positions and dimensions of each plug. (14) To prohibit waste, as defined in this Act. (15) To require the furnishing of such relevant information as the Mining Board may from time to time deem necessary or convenient to carry into effect the purposes of this Act.

For the purposes of this Act, the State Geological Survey shall co-operate with the Mining Board in making available its scientific and technical information on the oil and gas resources of the State, and the Mining Board shall in turn furnish a copy to the State Geological Survey of all drilling permits as issued, and such other drilling and operating data received or secured by the Mining Board

which are pertinent to scientific research on the State's mineral resources.

Whenever rules, regulations or orders are mentioned in this Act, such terms have no application to any action by the Mining Board for the management of the internal affairs thereof.

Sec. 6.1. When the applicant has complied with all applicable provisions of this Act and the rules and regulations adopted by the Mining Board pursuant thereto concerning application for and the issuance of permits for the drilling of a well for oil or gas purposes upon a unit established under such rules, regulations and orders of the Mining Board, the Mining Board shall issue the permit.

Sec. 7. The Mining Board shall have the right at all times to go upon and inspect oil and gas properties from which oil or gas is being produced, or where drilling operations have been or are being conducted for the purpose of ascertaining whether the provisions of this Act and the Orders, Rules and Regulations made in pursuance of this Act are being complied with.

Sec. 8. The Mining Board shall have the authority and it shall be its duty to make such inquiries as it may think proper to determine whether or not waste, over which it has jurisdiction, exists or is imminent. In the exercise of such power the Mining Board shall have the authority to collect data; to make investigation and inspections; to examine properties, including drilling records and logs; to examine, check and test oil and gas wells; to hold hearings; and to take such action as may be reasonably necessary to enforce this Act.

Sec. 8A. The Mining Board shall have the power and authority to regulate the disposal of salt or sulphur-bearing water and any oil field waste produced in the operation of any oil or gas well, and to adopt proper rules and regulations relative thereto.

Sec. 9. (a) The Mining Board shall prescribe rules of order for procedure in hearings or other proceedings before it under this Act. (b) No rule, regulation or order, including change, renewal or extension thereof, shall, in the absence of an emergency, be made by the Mining Board under the provisions of this Act except after a public hearing upon at least ten days' notice given in the manner and form as may be prescribed by the Mining Board. Such public hearing shall be held at such time, place and in such manner as may be prescribed by the Mining Board and any person having any interest in the subject matter of the hearing shall be entitled to be heard. (c) In the event an emergency is found to exist by the Mining Board which requires the making, changing, renewal, or extension of a Rule, Regulation or Order without first having a hearing, such emergency rule, regulation or order shall have the same validity as if a hearing with respect to the same had been held after due notice. The emergency rule, regulation or order permitted by this subsection shall remain in force no longer than fifteen days from its effective date, and, in any event, it shall expire when the rule, regulation or order made after due notice and hearing with respect to the subject matter of such emergency Rule, Regulation or Order becomes effective.

(d) All Rules, Regulations and Orders made by the Mining Board shall be in writing and shall be entered in full in a book to be kept for such purpose by the Mining Board, which shall be a public record and open to inspection at all times during reasonable office hours. A copy of such Rule, Regulation, or Order, certified by the executive officer of the Mining Board, shall be received in evidence in all courts of this State with the same effect as the original. (e) Any interested person shall have the right to have the Mining Board call a hearing for the purpose of taking action in respect to any matter within its jurisdiction by making a request therefor in writing. Upon the receipt of any such

request the Mining Board promptly shall call a hearing thereon, and, after such hearing, and with all convenient speed and in any event within thirty (30) days after the conclusion of such hearing, shall take such action with regard to the subject matter thereof as it may deem appropriate.

Sec. 10. Any interested person affected by this Act or by any Rule, Regulation or Order made or promulgated by the Mining Board hereunder, who may be dissatisfied therewith, shall have the right to file a suit in the Circuit Court of the county wherein is situated any part of the land which is the subject matter of such action, to test the validity of any provision of this Act or any Rule, Regulation or Order made or promulgated hereunder. Such suit shall be advanced for trial and be determined as expeditiously as feasible, and no postponement, or continuance thereof shall be granted except for reasons deemed imperative by the court. In such trials, the burden of proof shall be upon the party complaining of the validity of this Act or any provision thereof or any Rule, Regulation or Order made or promulgated hereunder and any such Rule, Regulation or Order so complained of shall be deemed *prima facie* valid. An appeal may be taken from the ruling of the court as in other civil actions.

Sec. 11. Whenever it shall appear that any person is violating or threatening to violate any provision of this Act, or any Rule, Regulation or Order made hereunder, and unless the Mining Board, without litigation, can effectively prevent further violation or threat of violation, then the Mining Board, through the Attorney General, who may call to his assistance the State's Attorney of the county in which suit is instituted, shall bring suit in the name of the people of the State of Illinois against such person in the circuit court of the county wherein is situated any part of the land which is the subject matter of such action, to restrain such person from continuing such violation or from carrying out

the threat of violation. In such suit the Mining Board, in the name of the People of the State of Illinois, may obtain such injunctions, prohibitory and mandatory, including temporary restraining orders and temporary injunctions, as the facts may warrant.

Sec. 12. Before any drilling or deepening for oil or gas is done it shall be the duty of the person, having the custody or control of any land upon which he desires to drill, to secure from the Mining Board a permit for such drilling.

Sec. 13. Where an application is made to drill or deepen an oil or gas well within the limits of any city, village or incorporated town, the application shall so state, and be accompanied with a certified copy of the official consent of the municipal authorities for said well to be drilled, and no permit shall be issued unless consent is secured and filed with the application. In the event that an amended location is selected, the original permit shall not be valid unless a new certified consent is filed for the amended location.

Sec. 14. Each application for permit to drill or deepen shall be accompanied by a bank draft, certified check, or post office or express money order for twenty-five dollars (\$25.00) payable to the State of Illinois, same to be deposited with the Treasurer of the State of Illinois.

Sec. 15. Any permit to drill a well for oil or gas shall expire one year from the date of issuance unless acted upon prior thereto by the commencement of drilling operations which are to be continued with due diligence. It shall in all respects be subject to the provisions of this Act and the rules, regulations, limitations and penalties herein provided or which may hereafter be adopted for the drilling, operation or plugging of oil or gas wells, or other drilling operations.

Sec. 16. Every owner or operator of any oil or gas well may appoint a person to act as his At-

torney in fact to execute applications for permits to drill oil or gas wells, or any wells in connection therewith, and to execute bonds and any other papers relative to such permits. Such owner or operator shall file with the Mining Board a properly executed power of attorney on a form acceptable to the Mining Board. Every person so appointing an Attorney in fact shall, within five days after the termination of any such appointment, notify the Mining Board in writing of such termination.

Sec. 17. In case any person drilling an oil or gas well shall request a location over a portion of the coal where mining operations have not heretofore been conducted and where coal is in place, then said well shall be drilled and sunk with due regard for the plans for future development and extensions of said seams.

Sec. 18. In no event shall any high explosive be exploded in any well until twenty-four hours' notice of the intention has been given to the owner of any working coal seam.

Sec. 19. If when a well is sunk and there is no oil or gas found and such hole is what is commonly known as a "barren well" or "dry hole," or when a well is abandoned, then such hole shall be plugged in accordance with Rules and Regulations and Orders formulated in pursuance of the provisions of this Act. The Mining Board shall have power to determine what constitutes abandonment.

Sec. 20. No oil or gas well shall be drilled hereafter nearer than 250 feet to any opening to a working coal mine used as a means of ingress or egress for the persons employed therein or which is used as an air shaft, except by mutual agreement between the person owning or operating the mine and the oil or gas operator.

Sec. 21.1. The Mining Board is authorized to issue permits for the drilling of wells and to regulate the spacing of wells for oil and gas purposes, but no spacing regulation shall be adopted which re-

quires the allocation of more than twenty acres of surface area to an individual well for production of oil from a limestone formation, or more than ten acres of surface area to an individual well for production of oil from a sandstone formation, provided, however, that the Mining Board may permit the allocation of greater acreage to an individual well than that above specified, and provided further that the spacing of wells shall not include the fixing of a pattern except with respect to the two nearest external boundary lines of each unit, and provided further that no acreage allocation shall be required for input or injection wells nor for producing wells lying within a secondary recovery unit as now or hereafter established.

For the prevention of waste, to prevent the dissipation of the natural resources of this State, and to avoid augmentation and accumulation of risk arising from the drilling of an excessive number of wells, but subject to the above limitations, the Mining Board shall, after due investigation and a hearing, have full power and authority in accordance with the provisions hereof to establish such drilling unit or units as it may find to be reasonable and practicable, having consideration for the regional geological characteristics and all other pertinent facts conducive to the most efficient and economical ultimate recovery of oil and gas therefrom, and shall make such orders, rules and regulations as will regulate the spacing of wells within such limits.

Sec. 22.1. (a) When two or more separately owned tracts of land are embraced within an established drilling unit, the owners thereof may validly agree to integrate their interests and to develop their lands as a drilling unit. Where, however, such owners have not agreed to integrate their interests, the Mining Board shall, for the prevention of waste or to avoid the drilling of unnecessary wells, require such owners to do so and to develop their lands as a drilling unit.

(b) All orders requiring such integration shall be made after notice and hearing and shall be upon terms and conditions that are just and reasonable and will afford to the owner of each tract the opportunity to recover or receive his just and equitable share of oil and gas in the pool without unnecessary expense and will prevent or minimize reasonably avoidable drainage from each integrated unit which is not equalized by counter drainage, but the Mining Board may not limit the production from any well. The portion of the production allocated to the owner of each tract included in an integrated unit, formed by an integration order or by voluntary agreement, shall, when produced, be considered as if it had been produced from such tract by a well drilled thereon. In the event such integration is required, the operator designated by the Mining Board to develop and operate the integrated unit shall have the right to charge to each other interested owner the actual expenditures required for such purpose not in excess of what are reasonable, including charges for supervision, and the operator shall have the right to receive the first production from any well drilled by him thereon, which otherwise would be delivered or paid to the other parties jointly interested in the drilling of the well, so that the amount due by each of them for his share of the expense of drilling, equipping and operation of the well may be paid to the operator of the well out of production, with the value of the production calculated at the market price in the field at the time such production is received by the operator or placed to his credit. In the event of any dispute relative to such costs, the Mining Board shall determine the proper costs.

Sec. 23.1. The owner or owners of any tract of land which is productive or capable of being productive of oil or gas or any owner or operator of an oil and gas leasehold on which productive wells are situated, under a lease authorizing the lessee or his assigns to explore for and remove oil and

gas, from any sand, strata, or formation, shall be permitted, in the interest of oil and gas conservation, to introduce and inject air, gas, water, or other fluid under pressure upon such sand, strata or formation, for the purpose of recovering the oil and gas contained therein; provided, that the owner or operator of a well into which water or other fluid is to be introduced into the sand, strata, or formation, shall make a written application to the Mining Board for authority so to do, and provided that written approval has been granted him by the Mining Board; and provided further that the operation shall be done under the rules and regulations of the Mining Board; and further provided, that such introduction or injection of air, gas, water or other liquid under pressure upon or into such sand, strata or formation shall not be deemed to be an unlawful act.

Sec. 23.2. (a) When two or more separately owned tracts of land are embraced within a pool or a portion of a pool suitable for secondary recovery methods, the owners thereof may validly agree to integrate their interest therein and to develop their land as a unit, and production from any tract in such established unit shall be regarded as production from all presently owned tracts or interests within such units.

(b) Agreements made in the interest of conservation of oil or gas, or both, or the prevention of waste, between and among owners or operators, or both, owning separate holdings in the same oil or gas pool, or in any area that appears from geological or other data to be underlain by a common accumulation of oil or gas, or both, or between and among such owners or operators, or both, and royalty owners therein, of a pool or area, or any part thereof, as a unit for establishing and carrying out a plan for the cooperative development and operation thereof, when such agreements are approved by the Mining Board, are hereby authorized and shall not be held or construed to violate any of the stat-

utes of this State relating to trusts, monopolies or contracts and combinations in restraint of trade.

Sec. 24. The provisions of this Section shall not apply to any city, village or incorporated town which has enacted or hereafter enacts an ordinance or resolution limiting the locating or spacing of wells.

Not more than one permit per pool for each block shall be issued for any city, village or incorporated town in which oil or gas is discovered on or after July 29, 1941. In any city, village or incorporated town in which oil or gas is discovered prior to July 29, 1941, not more than one permit per pool for each block shall be issued for any block in which no oil or gas well has been or is being drilled to any such pool prior to said date.

Sec. 25. No power herein granted to prevent waste shall be interpreted or construed as authorizing limitation of production of any well, wells, lease, leases, pool, field or properties to prevent or control economic waste or limit production to market demand.

Exploration and discovery of new and additional pools, fields and producing horizons are vital and the effect and administration of this Act shall be in accordance therewith and not contrary thereto. Any rule, regulation or order issued under the general powers of this Act in violation of the provisions of this Section shall be void and of no effect.

Sec. 26 (A). Any person who violates any provision of this Act or who, after notice of any valid rule, regulation or order of the Mining Board made hereunder, violates, repeats or continues the violation thereof, shall be subject to a fine of not to exceed \$50 a day for each and every act of violation. (b) Any person wilfully aiding or abetting any other person in the violation of any provision of this Act, or any Rule, Regulation and Order

made hereunder, shall be subject to the same penalties as are prescribed herein for the violation by such other person.

Sec. 27. "An Act in relation to sinking, filling and operating of wells for oil, gas, water or other purposes," approved May 16, 1905, as amended, is repealed.

Sec. 28. If any section, paragraph, sentence or phrase of this Act shall be declared unconstitutional, or void for any reason by any court of final jurisdiction, such fact shall not in any manner invalidate or affect any other section, paragraph, sentence or phrase of this Act, but the same shall continue in full force and effect.

Effective July 12, 1951.

An Act concerning the production of oil and gas.

Whereas, in order to promote the development, production and utilization of the natural resources of oil and gas within the State of Illinois, it is in the public interest to encourage, authorize, and provide for the maximum recovery of oil and gas in the State, by the use and employment of fluid injection into productive oil and gas formations, including the use of secondary recovery methods, and also including cycling and recycling of gas, pressure maintenance, repressuring, and injection of air, gas, water and other fluids into productive horizons or strata, and to declare the law of the State in regard thereto, therefore:

BE IT ENACTED BY THE PEOPLE OF THE STATE OF ILLINOIS, REPRESENTED IN THE GENERAL ASSEMBLY:

Section 1. It is hereby declared to be the law of the State of Illinois that the grant in an oil and gas lease or contract to a lessee or operator of the right or power, in substance, to explore for and remove all oil and gas from any lands

in the State of Illinois, in the absence of an express provision to the contrary therein contained, includes the right of the lessee, or his heirs or assigns, to do what a prudent operator using reasonable diligence, would do having in mind the best interests of the lessor and lessee, in producing and removing oil and gas, and includes the use of practices and methods employed by the oil and gas industry, including the injection of air, gas, water and other fluids into the productive formations or strata, and cycling and recycling of gas, when done upon the authority of and under the rules, regulations and orders of the Department of Mines and Minerals of the State of Illinois, as heretofore created or other Department or Commission hereafter created and authorized by law hereafter to administer the laws relating to the production of oil or gas, or both, in the State of Illinois.

Effective July 11, 1951.

An Act to amend Section 221 of Division I of “An Act to revise the law in relation to criminal jurisprudence” approved March 27, 1874, as amended.

BE IT ENACTED BY THE PEOPLE OF THE STATE OF ILLINOIS, REPRESENTED IN THE GENERAL ASSEMBLY:

Section 1. Section 221 of Division I of “An Act to revise the law in relation to criminal jurisprudence,” approved March 27, 1874, as amended, is amended to read as follows:

DIVISION I.

Sec. 221. It is a public nuisance:

* * *

10. To permit any well drilled for oil, gas, salt water disposal or any other purpose in connection with the production of oil and gas, to remain unplugged, after such well is no longer used for the purpose for which it was drilled.

11. To construct or operate any salt water pit or oil field refuse pit, commonly called a “burn out pit”, so that salt water, brine or oil field refuse or other waste liquids may escape therefrom in any manner except by the evaporation of such salt water or brine or by the burning of such oil field waste or refuse.

12. To permit concrete bases, discarded machinery and materials to remain around any oil or gas well, or to fail to fill any holes, cellars, slush pits and other excavations made in connection with any such well or to restore the surface of the lands surrounding any such well to its condition before the drilling of any such well, upon abandonment of any such oil or gas well.

13. To permit any salt water, oil, gas, or other wastes from any well drilled for oil, gas, or exploratory purposes to escape to the surface, or into a mine or coal seam, or into any underground fresh water supply, or from one underground stratum to another.

Effective July 23, 1943.

RULES AND REGULATIONS
of the
DEPARTMENT OF MINES AND MINERALS
for the
OIL AND GAS DIVISION

(Approved and adopted November 7, 1951)

In order to properly administer and enforce the provisions of an Act of the General Assembly of the State of Illinois entitled

“An Act in Relation to Oil, Gas, Coal and other Surface and Underground Resources, and to Repeal an Act Herein Named” filed July 29, 1941, as amended by an Act approved July 24, 1945 and as amended by an Act approved July 12, 1951

and to prevent waste as defined in said Act as amended, to promote the maximum ultimate recovery of oil and gas from the various pools, fields and reservoirs in the State of Illinois and to protect the vested or co-equal rights of the owners of oil, gas, coal and other surface and underground resources, the following Rules and Regulations are hereby adopted and promulgated by the Department of Mines and Minerals of the State of Illinois.

RULE I

GENERAL PROVISIONS

(1) DEFINITIONS

“THE ACT”—When used herein shall refer to and mean the provisions of the aforementioned Act of the General Assembly of the State of Illinois, as amended.

“CEMENT”—As used herein shall mean Portland or “neat” cement.

“MINING BOARD REPRESENTATIVE”—When used herein shall mean any employee of the Department of Mines and Minerals of the State of Illinois, who is qualified by training and experience, and is authorized by the Director in writing, to perform in his stead the powers and duties set forth in the aforementioned Act, which do not require the exercise of administrative discretion or that may be prescribed by the Rules, Regulations or Orders of the Mining Board adopted or promulgated pursuant thereto.

“DEVELOPMENT”—Shall mean any work or operation on or appurtenant to the oil and gas leasehold premises, which actively looks toward the drilling of wells for oil or gas, or the discovery of or bringing in production.

“LEASE TANK”—Shall mean the tank or other receptacle into which oil is produced either directly from a well or from a well through a gas separator, gun barrel or similar equipment.

“LOG”—Shall mean the systematic detailed written record correctly describing the strata

and formations progressively encountered in the drilling of a well for oil or gas, including water, oil and gas formations or other underground resources, with such additional data as is usually recorded in the normal procedure of drilling, including electric surveying or logging.

“MUD-LADEN FLUID”—Shall mean any approved mixture of water and clay or other suitable material as the term is commonly used in the industry which will effectively seal the formation to which it is applied.

“PLUG OR PLUGGING”—Shall mean the abandoning of a producing, nonproductive or nonoperative well; or the stopping of the flow of oil, gas, or water in a well.

“OIL STRING”—Shall mean that string of casing placed in a well and used for the purpose of segregating the horizon or formation from which production is obtained and affording a means of bringing the oil or gas from such productive horizon or formation to the surface.

“REPRESSURE”—Shall mean to increase the reservoir pressure by the introduction of gas, air or water or other fluid into the reservoir.

“ROTARY DRILLING”—Shall mean the hydraulic process of drilling a well for oil or gas as such method is commonly used in the industry.

“SHOOTING”—Shall mean the exploding of nitroglycerin or other high explosives in a well hole for the purpose of discovering or increasing the production of oil or gas therefrom or in perforating or parting the pipe therein.

“SPECIAL MUD MATERIALS”—Shall mean weighting material such as barium sulphate, Bentonitic clays, salt-resistant clays, filtration reduction agents and fibrous materials.

“UNDEVELOPED LIMITS OF A MINE”—The undeveloped limits of a mine are that portion of a mine where the entries have not been driven to the boundaries of the mine property.

“VACUUM”—Shall mean pressure which is reduced below the pressure of the atmosphere.

“WASTE LIQUIDS”—Shall mean oil field brines, cut oil, bottom sediments, concentrated sulphur water and acid waters.

“WELL”—Shall mean any well drilled for the purpose of discovering oil or gas, or any other purpose in connection with the exploration and production of the same including gas, air and water input wells.

“DIRECTIONAL DRILLING”— Shall mean the controlled directional drilling when the bottom of the well bore is directed away from the vertical position.

“DRILLING UNIT”—Shall mean (A) ten (10) acres of surface area allocated to an individual well drilled or deepened for the production of oil or gas from a sandstone formation, or (B) twenty (20) acres of surface area allocated to an individual well drilled or deepened for the production of oil or gas from a limestone formation.

“PATTERN FLOOD”—Shall mean a definite geometric arrangement of the input wells and the producing oil wells with a constant distance between the input and oil wells for any definite pattern.

(2) PREVENTION OF WASTE

All owners, managers, contractors, drillers, service companies, pipe pulling and salvage contractors or other persons drilling, casing or plugging oil or gas wells in this State shall at all times

conduct their operations, and drill, case, plug and abandon the same in the manner set forth by the Act or as hereinafter provided, so as to prevent waste or the escape of oil or gas out of one stratum to another, prevent the intrusion of water into oil, gas, or coal strata, and prevent the pollution of fresh water supplies by oil, gas, salt water, or sulphur-bearing water.

(3) JURISDICTION

As provided in the Act, the Mining Board shall have jurisdiction and authority over all persons and property necessary to enforce effectively the provisions of the Act.

(4) ENFORCEMENT OF ACT

The Mining Board of the Department of Mines and Minerals of the State of Illinois, being charged with the duty of enforcing the provisions of the Act and all valid Rules, Regulations and Orders adopted and promulgated pursuant thereto, may enforce or cause same to be enforced by action initiated by the Oil and Gas Division of the Department of Mines and Minerals.

(5) DELEGATION OF AUTHORITY

The Mining Board may authorize in writing any employee of the Department (herein designated Mining Board Representative) qualified by training and experience, to perform in his stead the powers and duties set forth in the Act, which do not require the exercise of administrative discretion, or that may be prescribed by the Rules, Regulations or Orders of the Mining Board adopted and promulgated pursuant thereto.

(6) RIGHT OF INSPECTION

Any authorized Mining Board Representative shall have the right at all times to go upon and inspect any oil and gas leasehold premises or property where drilling operations are or have been conducted, or from which oil or gas is being produced, for the purpose of making any investigation

or tests to ascertain whether the provisions of the Act or the Rules, Regulations or Orders of the Mining Board are being complied with, and shall make due and timely report of any violation thereof.

(7) RIGHT OF ACCESS

Any authorized Mining Board Representative shall have access to all well records wherever located. All persons having the custody or jurisdiction of the same shall permit the authorized Mining Board Representative to come upon any leasehold or other premises or property operated or controlled by them and have access at all times to, and inspect records pertaining to the drilling, completion, operation or plugging of any well drilled in this State, provided always that any information so obtained shall be considered confidential, and reported to, and only to, the Oil and Gas Division in the Department of Mines and Minerals; except that, any information so obtained may be presented as evidence in any proceeding concerned with any alleged violation of the Act or any valid Rule, Regulation or Order adopted or promulgated pursuant thereto.

(8) SWORN STATEMENTS

The Mining Board shall require sworn statements or affidavits when it is deemed to be expedient or necessary to effectuate the provisions of the Act. When such sworn statements or affidavits are required the same shall be sworn to before an officer or person authorized to administer oaths in the state where oath is taken.

(9) ADDITIONAL REPORTS

When requested in writing by the Mining Board, any oil well servicing company or other person or persons in the control or custody thereof, shall furnish and file with said Division any reports and records showing gun perforation, squeeze, cementing, shooting or chemical treatment of any well or

wells, which information shall also be considered as confidential, except when presented as legal evidence in any court proceedings concerned with any alleged violation of the Act or any valid Rule, Regulation or Order adopted or promulgated pursuant thereto.

(10) WHEN RULES AND REGULATIONS BECOME EFFECTIVE

All rules and regulations herein shall be in full force and effect when adopted and promulgated by the Mining Board, after notice and hearing as provided by the aforementioned Act, except as the same may hereafter be amended, modified, altered or enlarged in the same manner by the Mining Board.

(11) NOTICE OF RULES AND REGULATIONS

When the Mining Board issues any order under its Rules or Regulations, or under the Act, and mails a copy of the same by registered mail to the owner or manager concerned, with return receipt requested, it shall constitute legal notice of any such order of the Mining Board.

(12) FORMS

The Oil and Gas Division of the Department of Mines and Minerals shall prescribe and prepare all forms required under the Rules and Regulations herein and, when requested, shall furnish requisite copies of either thereof to any interested person requiring use of the same.

(13) HEARINGS—NOTICE

The Mining Board shall have authority to call public hearings or private hearings involving interested parties concerning matters pertaining to oil and gas activities.

(A) PUBLIC HEARINGS

A notice of public hearing as provided by the aforementioned Act shall be given by publish-

ing one (1) notice of the time and place thereof in at least five (5) newspapers of general circulation within the main oil-producing counties of Illinois, and such notice shall be published at least ten (10) days prior to the date of such hearing.

(B) PUBLISHER'S CERTIFICATE

Whenever notice of a hearing or Mining Board action is required to be published in a newspaper of general circulation, each publisher of the newspaper publishing said notice shall file with the Mining Board a copy of the published notice with an affidavit setting forth the date such notice was published in said newspaper.

(C) OTHER HEARINGS

A notice of hearings other than public hearings may be given by mailing a notice of the time and place of such hearing, by registered mail, with a return receipt requested, to the last known address of all persons concerned in the matter to be heard. Such notice shall be mailed at least ten (10) days prior to the date of the hearing.

In addition to such notice, the Mining Board may publish a notice of such hearing, in one (1) issue, of one (1) or more newspapers in or near the vicinity of the area involved in the matter to be heard.

RULE II

PERMITS

(1) GENERAL PROVISIONS

All applications for permits shall conform or be subject to the following requirements:

(A) APPLICATION TO BE FILED

All applications for permits shall be signed by the owner or manager or by a person authorized to sign for such owner or manager or by a member of an established firm, partnership, or association. Any person may sign for a corporation who is duly authorized so to do. Persons so authorized shall either sign personally or as Attorney in fact. If such person signs as an Attorney in fact, then a certified copy of the power of attorney shall accompany the application, unless one has been previously filed with the Mining Board.

If the application is signed by the manager, he shall furnish the Mining Board with a signed statement accompanying the application that he is the managing operator of the well and will be solely responsible for any and all violations of the Illinois Statutes and the Mining Board Rules and Regulations in the drilling, testing, completion, operation, and plugging of the well. The manager's responsibility for violations ceases if a new manager is appointed and furnishes the Mining Board with a signed managing operator's statement, as above provided.

(B) COPY OF EVIDENCE OF OWNERSHIP TO BE ATTACHED

No person shall be issued a permit for any purpose unless he has custody and control of the lands involved, either by being the fee owner

or by having a valid lease or agreement with the owners of the right to drill for oil and gas on the lands in question, proof of which shall be submitted by the applicant, by either attaching to the application certified copies of the original instruments or photostatic copies thereof, or, at the election of the applicant, by submitting a form to be furnished by the Mining Board, setting forth all such pertinent facts, which shall be subscribed and sworn to by the applicant, who shall certify the facts contained therein are true.

(C) WHEN PERMIT TO BE ISSUED

No permit shall be issued by the Mining Board until the applicant has fully met all requirements and the application is approved by the Department.

(D) PERMIT ISSUED TO OWNER OR MANAGER

All permits shall be issued by the Mining Board in the name or names of the person, firm or corporation for whom the application is made and who furnishes the bond.

(E) PERMIT POSTED AT WELL SITE

When fee permits are required no person shall commence drilling operations until the permit has been issued by the Mining Board and the original, a duplicate or a photostatic copy thereof posted at the well site.

(F) AUTHORITY TO DENY PERMIT

The Mining Board shall have authority to deny a permit to any person, when such person is in violation of the aforementioned Act or any valid and lawful Rule, Regulation or Order adopted or promulgated by the Mining Board.

(G) PERMITS NOT TRANSFERABLE

Permits issued under the Act are not transferable.

(2) APPLICATION FOR PERMIT TO DRILL OR DEEPEN WELL

(A) REQUIREMENTS

Before any person shall spud in or commence the actual drilling of any well for the discovery of oil or gas or commence operations to deepen any well to a different geological formation, such person shall file with the Oil and Gas Division of the Department, an application for a permit to drill or deepen such well on such form as the Mining Board shall require.

(B) DRILL OUT OR DEEPEN PLUGGED WELL

In order to drill out or deepen a previously plugged well, the same requirements shall apply as stated in Rule II (2) (A) except that no permit shall be issued to drill out or deepen a previously plugged well which is located less than 330 feet from the two nearest external boundary lines of the drilling unit. Exceptions shall be granted when the plugged well adjoins or is on that part of a leasehold on which secondary recovery operations are now or hereafter established.

(C) CONTENTS OF APPLICATION

The application for a permit shall include the following information, viz:

The name of the leasehold and exact location, by plat, of the well proposed to be drilled or deepened and the approximate location of producing wells previously drilled to the same formation on said leasehold, together with the name and approximate location of the offset well or wells on adjoining leaseholds, and a statement as to whether or not such proposed well location is within the limits of any incorporated city, town, or village.

Applications for permits shall be certified to by a registered Illinois land surveyor or registered professional engineer who works for the extraction of minerals from the earth.

The application shall include the names and addresses of lessor, lessee, owner, or manager and the person responsible for the conduct of drilling operations, and the name of the contractor, if available. The application shall also indicate the type of drilling tools or equipment to be used and the lowest proposed depth and geological formation to be tested.

When the applicant is not the individual owner or manager, if the applicant is a partnership, firm, association, or corporation, and if a corporation, whether its charter authorizes oil operations. If an assumed business name is used, whether it is registered as provided by the Illinois Statutes, giving county of registration.

(D) FEE

The applicant shall remit with the application to either drill, or deepen a well to a different geological formation, a fee of twenty-five dollars (\$25.00) by check, draft, Post Office or Express Money Order payable to the State of Illinois and shall give bond as hereinafter provided.

(E) EXPIRATION OF PERMIT

All permits shall be issued to cover a period of one (1) year from the date of issue and shall expire at that time unless acted upon prior thereto by the commencement of drilling operations at the location specified in said permit, and the drilling operations shall be continued with due diligence until the well is completed as a producer or has been completed at the authorized formation named in the permit; provided always that the Mining Board shall have the authority to revoke a permit when the Mining Board finds

that any fraud, deceit, or misrepresentation was made to obtain the issuance of said permit.

Each such permit shall expire before the period of one (1) year from date of issue when and as the permittee has completed the work specified in such original permit and the well is abandoned as a dry hole or the terms of the lease on the lands in question expire by their own limitation or the lease is canceled or forfeited in the manner provided by law.

In the event the well for which a permit was issued be productive of oil or gas, then such permit shall continue in full force and effect so long as oil or gas or other petroleum products are produced, saved, or marketed therefrom.

(F) CHANGE OF LOCATION

If a permittee requests a change of location for the drilling of the well before its completion and such change is upon the same lease and is not over thirteen hundred and twenty (1320) feet from the original location and such proposed change meets with the approval of the Mining Board, the permittee shall return the original permit together with an amended application for such change of location.

(G) DIRECTIONAL DRILLING

In controlled directional drilling when the intent is to direct the bottom of the well bore away from the vertical position, in addition to an application for a well permit the applicant shall furnish the Mining Board with the proposed direction of deviation and proposed horizontal distance between the bottom of the well bore and the surface location. If a permit is issued by the Mining Board, the permittee shall file with the Mining Board, within thirty (30) days after the completion of the well, a certified accurate and complete copy of the directional survey of said well. No person, company, or organization shall

direct, or assist in directing, any well bore away from the vertical position until the Mining Board has issued a permit for such directional drilling.

(3) APPLICATION FOR PERMIT FOR GEOLOGICAL OR STRUCTURAL TEST HOLE

As provided by the Act, the Mining Board shall require any person desiring or proposing to drill geological or structural test holes in connection with any operation for the exploration or production of oil or gas, to secure a permit therefor. In addition to complying with all provisions enumerated herein, the applicant shall give bond as further required by the Act, and shall also indicate the type of drilling tools to be used and the lowest proposed depth and geological formations to be tested. No permit fee is required for this type of test hole.

Mine or quarry drill or blast holes, seismograph test holes or holes drilled to explore strippable coal are exempt from the provisions of the Act. All wells drilled for water which do not penetrate the subsurface below the glacial drift are also exempt from the provisions of the Act.

(4) PERMITS FOR SALT WATER DISPOSAL OR FOR GAS, AIR, WATER, OR OTHER LIQUID INPUT WELLS

In order to prevent waste as defined in the Act, the Mining Board shall require any person desiring to convert any well now drilled, or any person desiring to drill or deepen a well for the purpose of injecting gas, air, water, or other liquid into any underground formation or strata to secure a NO FEE permit therefor.

(A) REQUIREMENTS FOR PERMIT

In addition to complying with all provisions enumerated and required in Section (1) "GENERAL PROVISIONS" above, the applicant for a permit for a salt water disposal well

or for a gas, air, water, or other liquid input well shall provide a bond as required by the Act.

In the application for a permit for such input well, the applicant shall indicate the location of all producing oil and gas wells, drilling wells or abandoned holes, within one-half ($\frac{1}{2}$) mile radius and all mines or mined out areas or the undeveloped limits of a mine within a like distance of such proposed well, together with the names and addresses of their owners, the name and description of the substance to be injected, and the depths and formation where the proposed injection will be made. The applicant shall also submit the log of such input well if previously drilled, and description and character of casing and cementing operations behind the same, and size of hole drilled.

(B) NOTICE TO OTHER OWNERS OR MANAGERS

Every person desiring to inject any such substance into an underground formation or stratum, shall notify the owners or managers of every oil or gas well, including those drilling or temporarily abandoned, and the owner of every mine, including the mined-out and undeveloped limits of any mine, within a one-half ($\frac{1}{2}$) mile radius, by registered mail on or before the day the application is filed with the Mining Board, and proof of such notice shall accompany said application. The name of the formation shall be included in the notice, and the approximate depth of the top and bottom of the formation to be injected is to be given. On receipt of such application and proof, the Mining Board shall hold the application for ten (10) days pending the filing of objections. In event objection is made within such time or the Mining Board deems a hearing should be had, notice shall be given to each objector and the applicant of the time and place designated by the Mining Board for such hearing.

(C) AUTHORITY TO DENY PERMIT

The Mining Board shall have authority to deny a permit when, in its judgment, there is danger of waste or when it believes the proposed protective work is not sufficient to confine the substance injected to the intended strata.

(D) AUTHORITY TO SUSPEND OPERATIONS

At any time it seems apparent that the injected substance is not being confined to the intended stratum and is migrating to other stratum or to the surface, the Mining Board shall have authority to suspend operations and after notice and hearing to prohibit the further use of any such well for said purposes.

(5) PERMIT REQUIREMENTS IN MINE AREAS

(A) FOR WELL PENETRATING MINE

When the location of a well to be drilled for oil or gas, or any purpose in connection therewith, will penetrate an active mine or through the mined out and inaccessible or sealed off area of an active mine, or shall penetrate the same in a temporarily abandoned mine, or the undeveloped limits of any such mine property, a drilling permit shall not be issued by the Mining Board until an agreement shall be reached between the owner of the proposed well and the mine owner, or in the event of failure to reach such an agreement a permit will not be issued until a hearing is held as hereinafter provided.

(1) AGREEMENT WITH MINE OWNER

A copy of such agreement, jointly signed by the applicant for a permit and the mine owner agreeing to the drilling of the well and the proposed location, shall be filed with the application and accompanied by a map or sketch showing the well location, its relation

to shafts and mine buildings, and to each coal seam or seams and mine workings underlying applicant's lease, or a statement from the mine owner that the location is over the undeveloped limits of the mine.

(2) REQUIREMENTS IN ABSENCE OF AGREEMENT

In the absence of such an agreement or statement, the applicant shall file with application for permit a map or sketch showing the well location, its relation to shafts and mine buildings, if any, as well as its relation to the mine workings underlying applicant's lease, with a sworn statement that a true and exact copy of application and accompanying exhibits was mailed postage prepaid to the coal company or its authorized agent in Illinois, by United States registered mail.

If within ten (10) days from the receipt of the application for permit by the Mining Board no written objections are filed, the Mining Board shall issue or deny the permit.

Upon the filing of objections to the issuance of the permit, the Mining Board shall promptly set the matter for hearing and decision.

(B) REQUIREMENTS IN INACTIVE MINING AREAS

In inactive mining areas where the existence of workable coal is known to be present and the ownership of such workable coal has been recorded in the county records, the applicant for a permit to drill a well for oil and gas or to drill any well in connection with the production of oil and gas shall notify the owner of said workable coal by registered mail with return receipt requested. The notice shall show the exact location of the proposed test and the approximate depth of the formation to be tested. The Mining Board shall be furnished with a copy of the notice at-

tached to the application for permit, with the return receipt from the owner of the workable coal or, in lieu thereof, a sworn statement that the applicant has the return receipt in his possession, giving the names and addresses of the owners of the coal rights and date of delivery of the notice.

(1) NOTICE TO MINE OWNER

No permit shall be issued to the applicant until ten (10) days have elapsed following the receipt of the registered notice by the owner of the workable coal.

(2) MAPS AVAILABLE AT WELL SITE

The permittee shall have an exact copy of the maps and sketches filed by him with the application for a permit at the well site, for the use of the Mining Board and its representatives.

RULE III

BONDS

(1) WHEN BONDS REQUIRED—AMOUNT

As provided by the aforementioned Act, the Mining Board shall require every person previous to the commencement of drilling for oil, gas or any other purpose in connection therewith, and every person who has created or acquired any well drilled for these purposes which has not been plugged and abandoned in accordance with the Laws, Rules, Regulations or Orders of the Mining Board, to execute and file with the Mining Board a bond of one thousand dollars (\$1000) for each of such wells, or in lieu thereof a blanket bond in the sum of twenty-five hundred dollars (\$2500) for all wells to provide for the compliance with the provisions of the aforementioned Act and all amendments thereof and to the Rules, Regulations and Orders of the Mining Board issued under the provisions of said Act and all amendments thereto.

(2) KIND OF BOND—EXECUTION

(A) SURETY OR CASH BOND

When surety bonds are given they shall be executed by a responsible surety company authorized to do business in the State of Illinois.

Cash bonds on Departmental form are acceptable when accompanied by certified check payable to the State of Illinois.

(B) PERSONAL BOND

If any other type of bond is given, the principal and the surety shall be bona fide residents of Illinois. The Mining Board is authorized to scrutinize and investigate each bond before it shall be approved or rejected, and the Mining

Board shall have thirty (30) days to pass on the sufficiency of any such bond.

(C) EXECUTION OF BOND

The Mining Board shall not approve any bond until it is personally signed and acknowledged by both the principal and surety, or for them by an attorney in fact with a certified copy of the power of attorney attached thereto.

(3) BOND OF MANAGER

The person, firm or corporation in whose name the permit is issued shall be named as principal on the bond and shall execute same for such well, together with a written statement to the Mining Board that he is the manager and will be solely responsible for any and all violations of the aforementioned Act or any Rule, Regulation or Order of the Mining Board adopted or promulgated pursuant thereto, that may occur in the drilling, operation or plugging of the well. Where the holder of a fractional working interest in the leasehold is designated as manager, he may furnish a bond.

(4) BOND FORM—APPROVAL

All bonds shall be given on a form to be prescribed by the Mining Board and shall be subject to its approval. The Mining Board may at any time request a new bond or additional sureties when it has reason to believe the present bond is inadequate.

(5) SURETY MAY CANCEL BOND

On thirty (30) days' written notice given to the Mining Board, any surety may cancel a bond or remove himself as surety, and in event of such, the surety shall not be responsible under the terms of the bond beyond the thirty-(30) day period after notice is given to the Mining Board, but shall continue to be liable for all the liabilities accruing under the bond during the period of the time he, they or it was the surety thereon.

(A) REQUIREMENTS BEFORE BOND MAY BE CANCELED

The provisions of the laws of the State of Illinois require the plugging of the well, or wells, the filling of all excavations, the removal of all concrete bases, discarded machinery and material, and restoring the surface as nearly as possible to its former condition before such well, or wells, was drilled; and such bond shall be renewed and be continued in effect until the aforesaid conditions have been fully complied with.

(6) MINING BOARD MAY CANCEL BOND

A bond given in accordance with the provisions of this rule may, upon not less than thirty (30) days' written notice to the Mining Board, be cancelled by the Mining Board, upon satisfactory proof's being furnished to the Mining Board by the principal or surety that all conditions and provisions of said bond have been fully complied with. In the event of a default by the principal in any of the conditions of the bond, the surety or sureties on such bond shall be responsible for the immediate and full compliance with the conditions of said bond.

(7) CASING PULLER'S BOND

Any person engaged in pulling casing from abandoned oil or gas wells and wells used in connection therewith, who purchases such wells for the purpose of salvaging material from the same, shall file a bond with the Mining Board in the sum of one thousand dollars (\$1000) for an individual well or in lieu thereof a blanket bond in the sum of twenty-five hundred dollars (\$2500) to guarantee the ultimate plugging of these wells conformable with the Rules, Regulations and Orders of the Mining Board, including the restoration of the ground conditions, such as filling the pits, leveling the well site, and cutting off surface pipe below plow depth, if the ground conditions have not previously been rectified by the prior owner of such well or wells.

RULE IV

SPACING OF WELLS

(1) GENERAL SPACING RULES

The Mining Board shall not issue a permit for the drilling or deepening of a well for the production of oil or gas within the State of Illinois unless the proposed well location and spacing substantially conform to the following:

(A) WELLS DRILLED OR DEEPENED TO SANDSTONE OR LIMESTONE FORMATIONS

(1) The well shall be located not less than 330 feet from the two nearest external boundary lines of a drilling unit which shall be established by the Mining Board and shall consist of:

- (a) a minimum of ten (10) acres of surface area to an individual well drilled or deepened for the production of oil or gas from a sandstone formation, or
- (b) a minimum of twenty (20) acres of surface area to an individual well drilled or deepened for the production of oil or gas from a limestone formation;

provided, however, the Mining Board may permit the allocation of greater acreage to an individual well than that above specified whenever the Mining Board deems it to be practical or expedient so to do.

(B) DRILLING UNIT

(1) The drilling unit for a well to be drilled or deepened for the production of oil or gas from a sandstone formation shall consist of ten (10) acres of surface area lying within the

quarter-quarter-quarter section of land as established by the official United States Public Land Survey made pursuant to the provisions of an act of Congress.

(2) The drilling unit for a well to be drilled or deepened for the production of oil or gas from a limestone formation shall consist of twenty (20) acres of surface area lying within the east-west or north-south one-half of a quarter-quarter section of land as established by the official United States Public Land Survey made pursuant to the provisions of an act of Congress.

(C) SEPARATELY OWNED TRACTS WITHIN DRILLING UNIT

(1) When two or more separately owned tracts of land are embraced within a proposed drilling unit, the Mining Board shall establish the boundary lines of such drilling unit and shall require the owners of any interest in the oil and gas underlying such separately owned tracts to integrate their interests and develop said lands as a drilling unit before a permit is issued to drill or deepen a well thereon for the production of oil or gas.

(2) In the event the owners of any interest in the oil and gas underlying such separately owned tracts in a proposed drilling unit have not agreed to integrate their interests and develop said lands as a drilling unit, then such owners of either tract may file with the Mining Board an application for a permit to drill or deepen a well for the production of oil or gas. The applicant shall furnish all pertinent data and information requested or required by the Mining Board. Whereupon the Mining Board shall, after notice to all parties in interest and hearing on said application, enter an order either approving or denying said application; and, if approved, the Mining Board shall, by said order,

require the integration of such separately owned tracts in the established drilling unit and may in said order allocate a portion of the production to the owner of each tract and designate the owner or operator to develop and operate the integrated unit.

(D) TWIN WELLS

Twin wells may be drilled on a drilling unit to different sandstone or limestone formations, allocating the acreage in the drilling unit for each producing formation as above provided.

(E) WELLS WITHIN CORPORATE LIMITS

In any city, village, or incorporated town which has not enacted or does not hereafter enact an ordinance or resolution limiting the locating or spacing of wells drilled for the production of oil or gas, only one (1) permit per pool for each block shall be issued by the Mining Board. If the location of the well is on a partial block already surveyed and platted for a city, village, or incorporated town, the applicant for a permit to drill or deepen a well for the production of oil or gas shall communitize this partial block with an adjoining block before a permit will be issued. A certified copy of the official consent of the municipal authorities to drill or deepen a well located within the limits of any city, village, or incorporated town must accompany the application for permit. A certified copy of consent of the municipal authorities is also required for an amended location.

(F) EXCEPTIONS

(1) Whenever the topographical conditions of a drilling unit render it impractical, without unreasonable expense, to drill a well at a location in conformity with the spacing rules, the Mining Board may alter the location after investigation and verification of the topographical conditions.

(2) In those areas where the U. S. Government

has not made an official survey, in areas covered by the old French Surveys and Grants, in meandered lands, in government lots, and in subdivisions thereof where the acreage in quarter-quarter-quarter sections and quarter-quarter sections does not conform to the spacing and drilling requirements of the law and the rules and regulations, the Mining Board shall have the authority to establish drilling units and to grant exceptions for wells when such drilling units are approximately ten (10) acres for sandstone horizons and twenty (20) acres for limestone horizons and will not cause a greater well density than would be encountered in regular official surveys.

(3) In case of irregular sections containing more or less than 640 acres, the Mining Board shall have the authority to allow exceptions or create units other than quarter-quarter-quarter sections in sandstone horizons and other than half quarter-quarter sections in limestone horizons so as to allow approximate units of ten (10) acres in sandstone and twenty (20) acres in limestone horizons in order to absorb the entire acreage in such sections into units as aforesaid.

(4) Gas, air, water, or other liquid input wells, salt water disposal wells, and structure tests are exempt from any spacing requirements.

(5) In order that a proposed well may be located over an existing or proposed pillar of a mine property, the foregoing spacing requirements may be waived by the Mining Board when the well to be drilled or deepened for oil or gas will penetrate an active mine, the mined-out or inaccessible portion of an active mine, a temporarily abandoned mine, or the undeveloped limits of any such mine property.

(6) Each person desiring the Mining Board to grant an exception for a reason other than those specified in Paragraphs (1), (2), (3), (4), and (5) of this Section (F) shall submit with his ap-

plication for permit a statement setting forth the desired exception and the reasons or necessity therefor, and giving in detail the action the applicant has taken in such matter. The applicant shall notify, by registered mail on or before the day the application is filed with the Mining Board, the owner or manager of every oil and gas well within one-half ($\frac{1}{2}$) mile radius of the proposed well location, and proof of such notice shall accompany said application. Upon receipt, the Mining Board shall hold such application and proof of notice ten days for possible objections. In the event objection is made within such time or the Mining Board deems a hearing should be had, the Mining Board shall give notice to each owner or manager listed in the proof of notice, and to the applicant, of the date and place designated by the Mining Board for such hearing. After such hearing the Mining Board shall either issue or deny the permit.

(2) SECONDARY RECOVERY

Spacing regulations for oil wells will not be waived in areas where the applicant declares an intention to undertake a proposed secondary recovery operation, until one or more input wells are first drilled or other wells are actually converted to input wells after permits have been issued for such conversion.

(A) PATTERN FLOOD

(1) When an applicant applies for a permit to drill or deepen an oil well at a location which complies with the regular spacing requirements set out in Rule IV (1) (A), a permit shall be issued by the Mining Board.

(2) When an applicant applies for a permit to drill or deepen an oil well using the same spacing pattern as that used in an adjacent pattern flood, a permit shall be issued by the Mining Board.

(3) When an applicant applies for a permit to drill or deepen an oil well at a lesser distance to the boundary lines of his leasehold than are the existing oil wells in an adjacent pattern flood, the applicant shall notify, by registered mail, the owners or managers of oil wells in the established secondary recovery projects within one-half mile of the proposed well, stating his intentions as described in his application for a permit. A copy of the notification will be held by the Mining Board ten days after its receipt with the application for a permit. If no written objections are received by the Mining Board from the operators so notified, the permit shall be issued. If written objects are received by the Mining Board within the ten-day period, the Mining Board shall call a hearing to determine the merits of issuing such a permit. After such hearing the Mining Board shall either issue or deny the permit.

(B) OTHER FLOODS

(1) When the spacing of oil wells and/or input wells is not based on a geometric arrangement, as defined in the definition of a pattern flood, the following shall apply:

- (a) When the location of the proposed oil well requested complies with the regular spacing requirements set out in Rule IV (1) (A), a permit shall be issued by the Mining Board.
- (b) When the location of the proposed oil well requested does not comply with the regular spacing requirements set out in Rule IV (1) (A), the applicant shall notify, by registered mail, the owners or managers of oil wells within one-half mile of the proposed well, stating his intentions as described in the application for a permit. A copy of the notification will be held by the Mining Board ten days after its receipt with the application for a permit. If writ-

ten objections are received by the Mining Board within the ten-day period, the Mining Board shall call a hearing to determine the merits of issuing such a permit. If no written objections are received by the Mining Board from the operators so notified, the Mining Board shall either issue a permit or, at its discretion, call a hearing to determine the merits of issuing such a permit. If a hearing is held, the Mining Board shall subsequently either issue or deny the permit.

(C) RECORD TO BE KEPT

If any owner or manager of a leasehold adjoining a secondary recovery project files with the Mining Board a verified complaint stating the he has reasonable grounds to believe secondary recovery operations are being conducted on the offset leasehold in such manner as to violate or impair his right to recover the oil or gas underlying his leasehold premises, the Mining Board may require the owner or manager of such secondary recovery project to submit to the Mining Board his or its records and data showing the average production from said leasehold, the formation or formations subjected to such secondary recovery operations, and the daily injection volume and pressure of each input well thereon, during the period of two full calendar months preceding the filing of such complaint. If such records have not been kept by such owner or manager, the Mining Board may require that the same be kept for a specified period of time, not to exceed two full calendar months, and furnished to the Mining Board. The information or data submitted by the owner or manager of such secondary recovery project shall be confidential except that the Mining Board may exhibit the same to complainant. This rule shall not be construed to

prevent the Mining Board from taking any other action authorized by the Act which it may deem necessary in order to prevent waste.

(3) NONCONFORMING WELL TO BE PLUGGED

Any well drilled in violation of the permit issued therefor shall not be allowed to produce oil or gas, but after notice and hearing by the Mining Board the said well shall be plugged and abandoned unless an exception be granted by the Mining Board.

RULE V

FILING OF LOGS AND WELL INFORMATION

(1) RETURN OF COMPLETION CARD

A completion card will be attached to each drilling permit issued by the Mining Board. Upon completion of the well for which the permit is issued, the owner, manager, or operator of said well shall furnish the information requested thereon, and shall mail the same promptly, addressed to the Oil and Gas Division of the Department of Mines and Minerals, Springfield, Illinois.

(2) WELL LOG TO BE FILED

The Mining Board shall require any owner or manager, as defined by the Act, of any well drilled for oil or gas, to file a log of strata encountered in said well and also an electric log, if one has been made, and time log if requested, in the office of the State Geological Survey, Division of the Department of Registration and Education, Urbana, Illinois, within three (3) months after the completion of said well.

(3) CONTENTS OF WELL LOG

Such logs shall show :

(A) The name, number, location and elevation of the well in accordance with the description required by the Mining Board in the application for the permit to drill such well ;

(B) The name, character, depth and the thickness of the formations passed through or encountered in the drilling of such well and the depth and thickness of each oil-, gas-, or water-bearing formation or strata encountered ;

(C) The depth and thickness of coal beds and deposits of mineral materials of economic value ;

(D) The results on completion, whether the well was dry or productive of oil or gas, and if productive, the initial production;

(E) If fresh water has been encountered, the approximate capacity;

(F) The elevation above mean sea level of the point from which the depth measurements are made, stating its height above ground level at the well.

The correctness of the log shall be subscribed and sworn to before a notary public, that the statements contained therein are true.

When requested in writing by the owner, any or all information contained in any such log hereby required will be kept confidential until released in writing by the owner thereof or his legal representatives after its lodgment in the office of the State Geological Survey; however, no such information shall be kept confidential for more than one (1) year from the date of issue of the drilling permit for the particular well.

(4) COLLECTION OF DRILL CUTTINGS

As provided by the Act, the Mining Board shall notify the person or persons to whom any permit is issued, at the time of the issuance thereof, either to collect or not to collect for the State Geological Survey, drill cuttings representing each run drilled in cable tool wells and each ten (10) feet of distance drilled and drilling time in rotary wells. When so notified by the Mining Board to collect such cuttings hereby required, the permittee shall obtain containers for such cuttings, and information as to the approved method of collecting drill cuttings from the State Geological Survey, Urbana, Illinois.

RULE VI

IDENTIFICATION OF LEASES AND TRANSFER OF MANAGEMENT

(1) LEASE AND WELL IDENTIFICATION

To identify all producing leases the owner or manager thereof shall cause a sign to be placed where the principal lease road enters the lease and such sign shall show the name of the lease and the owner or manager thereof and the section, township and range.

A legible numeral shall be attached or painted on pumping unit or jack of each well or a legible sign placed near the well to identify the well number.

(2) TRANSFER OF MANAGEMENT

The Mining Board shall be notified within ten (10) days after the transfer of each change of management of a producing oil and gas leasehold estate or fee production.

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RULE VII

WASTE PROHIBITED

(1) AVOIDABLE WASTE OF GAS

In drilling any well, if a gas sand or stratum is penetrated, the hole must not be left open so that an avoidable escape of gas, which in the opinion of the Mining Board constitutes waste, will occur during further drilling in or through such stratum or during temporary abandonment of the well. The Mining Board may require mud-laden fluid to be applied, or the gas stratum cased off, or any suitable method adopted which will arrest such escape of gas.

Gas produced in connection with the production of oil shall be burned in flares where there is no market at the well for escaping gas. The operators of casinghead gas plants operated for the extraction of liquid hydrocarbons from the gas shall burn the residue gas in flares when no market exists at such plant for the residue gas or when the gas is not returned to an oil pool or field for pressure maintenance or repressuring of the oil pool or field.

(2) ESCAPE OF UNBURNED GAS PROHIBITED

The escape of unburned gas from any well into the air or atmosphere is hereby prohibited. All such surplus gas, not otherwise utilized, shall be burned at a safe distance from any well, storage tank or building.

(3) BURN-OFF PITS

To prevent fire hazards and waste from waste oil, the same shall be collected in burn-off pits which shall be located a safe distance from oil storage tanks, buildings, or other structures, and shall be

burned as often as necessary to prevent overflowing. Such pits shall be constructed to prevent the escape of oil therefrom, and shall have a continuous wall completely surrounding the pit of sufficient height above the surface to prevent surface water from running into the pit. Earthen pits will be permitted at locations where the soil is heavy and tight, but shall be prohibited in locations where the soil is porous and closely underlaid by either gravel or sand strata.

(4) LEASE TANK RESERVOIRS

When it is deemed necessary by the Mining Board to protect life, health or property, the Mining Board may require any lease or oil storage tanks to be surrounded by an earthen dike which shall have a capacity of one and one-half ($1\frac{1}{2}$) times the capacity of the tank or tanks it surrounds, which dike shall be continually maintained; and the reservoir within shall be kept free from vegetation, water or oil.

(5) FIRE HAZARDS AT WELL LOCATIONS

All well and tank locations shall be kept free of dead grass, brush, weeds and other inflammable material and so maintained at all times.

RULE VIII

PROTECTION OF WORKABLE COAL BEDS

To prevent waste, the Mining Board shall protect workable coal beds in the drilling, casing, and plugging of wells drilled for oil or gas, or for any other purpose in connection therewith.

(1) WORKABLE COAL BEDS DEFINED

All coal beds or seams thirty (30) inches or more in thickness less than one thousand (1000) feet below the surface shall be determined as workable. When any well drilled for oil or gas, or to be used in connection therewith, penetrates such coal seams or ceases to be used for the purpose drilled, such coal seams shall be protected as herein provided.

(2) MINING BOARD MAY DETERMINE PRESENCE OF COAL SEAMS

The Mining Board shall have authority to determine when workable coal beds or seams are present, by geological data obtained from the State Geological Survey, or other relevant information which would indicate the presence of workable coal beds or seams underlying the well site.

When the presence of any coal strata or seam is disputed by the owner or manager of a well, and such condition is contrary to the geological information possessed by the Mining Board, such contention of the owner or manager shall be supported by an affidavit on a form prescribed and furnished by the Mining Board, which affidavit shall be executed by a geologist or other person qualified and competent to determine the presence of such disputed coal strata or seam. When such affidavit has been filed with the Mining Board, it shall have au-

thority to determine the issue, after obtaining all further geological information possible, or if the Mining Board deems expedient, it may on its own motion, call a hearing to be held as herein provided to determine such facts.

(3) WELL LOCATIONS PROHIBITED

No well for oil or gas shall be drilled within two hundred fifty (250) feet from any opening of an active coal mine used as a means of ingress or egress for the persons employed in such mine, or which is used as an air shaft, except by mutual agreement between the person owning or operating the mine and the oil or gas operator.

(4) NOTICE TO MINING BOARD

At least twenty-four (24) hours prior to reaching the depth of mine workings or the undeveloped limits of the mine, the person in charge of drilling operations shall notify the Mining Board or Mining Board Representative and the mine representative of the time when such well shall reach such point, in order that the Mining Board may have a Mining Board Representative present on the well site at such time.

(5) CASING AND PROTECTIVE WORK

Whenever the Rules and Regulations require a mine string to be set in a mine area, the casing used inside the mine string shall be new.

Any protective work required in a mine area shall be under the supervision of the Mining Board.

(6) OPERATIONAL REQUIREMENTS OVER ACTIVE MINE

(A) MINING BOARD TO DETERMINE SAFETY FACTORS

No well shall be drilled into any coal mine or mine workings in any active mine until the Min-

ing Board Representative is present and determines that the mine or mine workings are safe.

Until the Mining Board Representative is satisfied that adequate protection has been provided so that no hazard exists, drilling operations shall be suspended. After any protective or corrective work, required by the Mining Board Representative, has been satisfactorily completed by the well owner, manager or his representative, drilling operations may be ordered resumed; but if in the opinion of the Mining Board Representative it is impossible to adequately protect the mine or mine workings, he shall order the permit revoked and the well plugged in the manner hereinafter provided.

(B) DRILLING METHODS AND PROCEDURE

(1) GENERAL

All wells drilled through an active coal mine or through an abandoned portion of an active mine shall be located if possible in order to pass through an adequate pillar.

(2) MINE PROTECTIVE STRING

Whether drilled through a pillar or not, a mine string of casing of good quality shall be set to protect the mine. The mine string shall be treated with a heavy impervious coating of asphalt, plastic, or other acid-resisting material from fifty (50) feet above the mine roof to a point fifty (50) feet below the mine floor or base of coal seam.

The outside diameter of the mine string shall be at least four (4) inches smaller than the diameter of the well bore and equipped with centralizers or similar mechanical device above and below the coal seam. The mine string shall be set at an approximate depth of fifty

(50) feet below the base of the coal seam and cemented from the casing seat to the surface.

If the mine string misses a pillar and is set through an open room of an active mine or the abandoned portion of an active mine, an umbrella, basket, or packer must be used on the mine string to set above the mine roof and the mine string shall be cemented from the casing seat to the mine floor and also cemented from the umbrella, basket, or packer set above the mine roof to the surface.

(3) CEMENTING OIL STRING

The outside diameter of the oil string shall be at least three (3) inches smaller than the inside diameter of the mine string when set through a pillar, and the outside diameter of the oil string shall be at least four (4) inches smaller than the mine string when set through an open room and equipped with centralizers, or similar mechanical devices, immediately above and below the coal seam. The centralizers shall be so spaced as to be within the mine string of casing.

The oil string shall be surrounded with cement from the casing shoe to the surface, or the oil string may be cemented using multiple-stage cementing tools, as hereinafter provided.

When the multiple-stage cementing method is used, at least one hundred (100) sacks of cement shall be placed around the casing shoe and the multiple-stage cementing tool placed one hundred (100) feet below the floor of the mine and cemented from that point to the surface.

In areas where thief zones or high permeability horizons occur below the level of the mine, the Mining Board may require multiple-stage cementing tools to be used in the cementing of the oil string in order to assure protection for the mine.

(4) TEMPERATURE SURVEY REQUIRED

When drilling through mined out areas which are not accessible, and, if, in the opinion of the Mining Board representative, it is necessary, a self-registering thermometer shall be lowered to the mined out level, and if the recorded temperature shows the possibility of fire at or near the position of the hole, the drilling permit shall be revoked and the hole plugged, as herein required.

(C) SHOOTING WELLS OVER ACTIVE MINES OR WORKED OUT PORTIONS OF ACTIVE MINES

(1) SHOT LESS THAN FIFTY (50) QUARTS

When any well is located over or penetrates an active mine or worked out portions of an active mine, before shooting the oil-bearing formation, the well owner or manager shall proceed as follows:

- (a) Notify the Mining Board or Mining Board Representative at least twenty-four (24) hours in advance of the time the shot is to be fired.
- (b) Notify the mining company at least twenty-four (24) hours in advance of the time the shot is to be fired.
- (c) Tamp the shot with a minimum of sixty (60) feet of tamp, at least the top thirty (30) feet of which shall be of impervious material, being sure that the top of the tamp extends to a place in the hole opposite solid rock formation. Fill the hole to the top with fluid of consistent viscosity and specific gravity.

(2) SHOT EXCEEDING FIFTY (50) QUARTS

When the charge exceeds fifty (50) quarts of nitroglycerin :

- (a) Apply to the Mining Board for permission to shoot, indicating the size of charge to be used.
- (b) In the absence of written authority from the coal company for the specific shot, the Mining Board shall :
 - (1) Immediately upon receipt of application notify the coal company indicating location of well and size of charge to be used.
 - (2) If no objection is filed by the coal company within twenty-four (24) hours, the Mining Board shall give permission to fire the shot.
 - (3) If coal company objects, the Mining Board shall, within twenty-four (24) hours of receipt of said objection set matter for hearing and determination in county where well is located.
- (c) Extend the tamp with impervious material ten (10) feet beyond the minimum tamp of sixty (60) feet for each additional ten (10) quarts of charge used, being sure that the top of the tamp extends to a place in the hole opposite solid rock formation. Fill the hole to the top with fluid of consistent viscosity and specific gravity.

RULE IX

DISPOSAL OF SALT WATER OR OTHER LIQUIDS TO PREVENT WASTE AS DEFINED IN THE ACT

To prevent waste, no person shall dispose of salt water or other waste liquids except in the following manner. Any other method of disposal is hereby prohibited.

(1) MINING BOARD SUPERVISION

When salt water or other waste liquid is not properly impounded or is being improperly disposed of, the Mining Board shall order such improper condition corrected when it is determined that the disposal method used pollutes fresh water supplies, creates a hazard, or is injurious to life, health or property.

(2) DISPOSAL IN UNDERGROUND STRATUM

Salt water or other waste liquids may be disposed of into an underground formation or strata after a permit to do so has been procured from the Mining Board as hereinbefore provided. The Mining Board shall have authority to designate and approve the stratum into which such liquids shall be disposed of, also the protective work necessary to confine such liquids to the intended stratum. All such work shall be executed under the supervision of a Mining Board Representative and shall conform to the requirements imposed in granting the permit therefor.

(3) DISPOSAL IN EARTHEN PITS

Salt water or other waste liquids may also be disposed of by evaporation when impounded in

excavated earthen pits, which may only be used for such purpose when the pit is underlaid by tight soil such as heavy clay or hardpan.

Where the soil under the pit is porous and closely underlaid by a gravel or sand stratum, impounding of salt water or other waste liquids in such earthen pits is hereby prohibited. When such liquids are impounded in an earthen pit, it shall be so constructed and maintained as to prevent escape of such liquids therefrom.

The Mining Board shall have authority to condemn any pit which does not properly impound such liquids and order the disposal of such liquids into an underground formation, as herein provided.

The level of salt water or other waste liquids in earthen pits shall at no time be permitted to rise above the lowest point of the ground surface level. All pits shall have a continuous embankment surrounding them sufficiently above the level of the surface to prevent surface water from running into the pit. Such embankment shall not be used to impound salt water or other waste liquids.

At no time shall salt water or other waste liquids impounded in earthen pits be allowed to escape over adjacent lands or into streams.

(4) PIPES TO BE KEPT IN REPAIR

A pipe conveying such liquids to any salt water disposal well or pit shall be kept in good repair and free from leaks, and no outlet valve will be permitted in such pipe between the place of origin and discharge.

RULE X

VACUUM

The use of vacuum pumps or other devices for creating a vacuum on any oil- or gas-producing stratum is hereby prohibited until the owner or manager has complied with the following requirements:

(1) APPLICATION FOR USE OF VACUUM

On or before the date of filing an application by letter for the use of vacuum on any leasehold, the applicant shall notify, by registered mail, all other persons owning or managing producing oil or gas wells located within one-half ($\frac{1}{2}$) mile radius of the well or wells where the use of vacuum is proposed, and shall set out in the notice the proposed strata or formation and exact location of the well or wells to be affected by the application or use of such vacuum. The applicant shall submit proof of such notice with the application, giving the names and addresses of all well owners or managers within such one-half ($\frac{1}{2}$) mile radius.

(2) NOTICE AND HEARING ON APPLICATION

On receipt of such application and proof of notice, the Mining Board shall hold the same for ten (10) days pending the filing of objections, and if none is received at the end of such period, the application may be approved by the Mining Board.

In event objection is made by the owner or manager of any well or wells producing from the same formation, which are located within one-half ($\frac{1}{2}$) mile radius of the proposed vacuum installation, and the Mining Board deems a hearing shall be had,

notice shall be given to each objector and the applicant, of the time and place designated by the Mining Board for such hearing.

(3) MINING BOARD AUTHORITY

The Mining Board shall have authority after notice and hearing to prohibit vacuum or to deny or revoke permission for the use of vacuum when, in its judgment, there is danger of underground waste.

The Mining Board shall have authority to grant permission when it believes a further recovery of oil can be obtained by use of vacuum without danger of underground waste.

RULE XI

PLUGGING OF WELLS

As provided by the Act, as amended, and to prevent waste as therein defined, any owner or manager who owns, has drilled, or has acquired a nonproductive well drilled for oil or gas, or for any other purpose in connection with the exploration and production of the same, including unused input wells, salt water disposal wells, and geological or structure test holes drilled below the glacial drift, shall be required by the Mining Board to securely plug and abandon such well in the manner herein provided, except when an extension of time has been granted by the Mining Board in writing.

(1) MINING BOARD SUPERVISION

The plugging and abandoning of wells and the consequent pulling of casing or the partial plugging back operations from one formation to another shall be under the supervision of the Mining Board and the Mining Board Representative. The Mining Board shall have authority to prohibit the plugging of a well when the equipment used is not adequate or is insufficient, in the opinion of the Mining Board, to perform the abandonment according to the Rules and Regulations.

When the casing in any well is not the property of the person owning the well, the owner of such casing is prohibited from pulling the same until he has notified a Mining Board Representative, and then shall securely plug such well under the supervision of the Mining Board in the same manner as the owner of the well is herein required.

(2) WHEN WELL TO BE PLUGGED

The owner or manager shall not permit any well drilled for oil, gas, salt water disposal or any other

purpose in connection with the production of oil and gas, to remain unplugged after such well is no longer used for the purpose for which it was drilled or converted.

(3) PRIOR NOTICE TO MINING BOARD REPRESENTATIVE

When the owner or manager of any inactive, nonproductive or nonoperative well desires to plug such well or partially plug back to a different formation or to withdraw casing from such well, he shall notify a Mining Board Representative and, if in an active coal mine area, notify the owner or operator of such coal mine at least eight (8) hours in advance of the time he expects to begin plugging or pulling casing. The commencement of such operations, including shooting off casing, is prohibited until an authorized Mining Board Representative is present.

(4) OWNER TO FURNISH WELL LOG

Upon arrival of the Mining Board Representative at the site of the well to be plugged or partially plugged back to a different formation, the owner or manager of the well, or his representative, shall make available to the Mining Board Representative a complete log of the well, which shall show the character and depth of all formations encountered in the drilling of such well, particularly showing the depth and thickness of all oil-bearing strata, gas-bearing strata, water-bearing strata, and workable coal beds.

When no log is furnished by the owner, the Mining Board may require the well to be filled with cement from bottom to top, or the Mining Board may require it to be plugged in accordance with the knowledge of logs of nearby wells.

(5) PLUGGING METHODS AND PROCEDURES

(A) GENERALLY

A cement plug to protect the producing formation must be placed opposite the producing formation and extend to a point twenty (20) feet above the top of said producing formation. In cases where the history of the well shows that heavy or repeated shots in a sandstone formation, or heavy or repeated acidization in a limestone formation, render it probable that a large cavity exists within the producing formation, it is permissible to fill such cavity with sand, crushed rock, or other suitable material approved by the Mining Board in order to provide an anchor on which to place a cement plug not less than twenty (20) feet in length above the top of such producing formation. A cement plug is to be placed below the casing seat of the oil string and extend to a point twenty (20) feet above said seat and if there is a liner that is not to be withdrawn, said cement plug shall be placed at the top of the liner and extend to a point twenty (20) feet above.

No sand, gravel, or other foreign substance shall be mixed in the slurry; however, the use of an admixture of special mud materials may be used, subject to the approval of the Mining Board Representative.

(B) PROTECTION OF COAL SEAMS

Each coal seam of thirty (30) inches or more of thickness and lying above the depth of one thousand (1000) feet shall be protected by a cement plug extending one hundred (100) feet above said coal seam to a distance of fifty (50) feet below the same or to the bottom of the hole, whichever is less.

In wells penetrating an active mine or the worked out area of a mine or the undeveloped

limits of a mine property having workable coal seam or seams, a substantial support shall be provided for each cement plug required for coal seam protection. The supporting plug shall consist of wood or other suitable material having adequate strength and shall be set and tested to determine that settlement or a movement of the cement plug will not take place during the period required for the setting of the cement.

(C) SHOOTING CASING IN ROTARY HOLE

In wells originally drilled by rotary tools, before any casing is shot off or otherwise parted at a point above the casing shoe, the hole must be filled with properly prepared mud of not less than thirty-eight (38) viscosity, or other suitable material, to the point of parting. After the casing is parted and withdrawn, the hole must be completely filled with mud.

A cement plug twenty-five (25) feet in length shall be placed ten (10) feet below the base of the surface casing and extend to a point at least fifteen (15) feet above the base of surface casing. The remainder of the hole shall be filled with mud.

The surface casing shall be cut off three (3) feet below the surface of the ground and a mushroomed cement cap of approximately one (1) foot in thickness shall be placed over the casing so that the top of the mushroomed cap is at least two (2) feet below the surface of the ground. The hole shall then be filled with dirt and the surface of the ground leveled.

In the event that surface casing has not been used, a cement plug shall be placed in the hole three (3) feet below the surface to a depth of twenty-five (25) feet. A mushroomed cement cap of approximately one (1) foot in thickness shall be placed over the top of the hole so that the top of the mushroomed cap is at least two

(2) feet below the surface of the ground. The hole shall then be filled with dirt and the surface of the ground leveled.

These provisions shall not exclude the placing of cement in the producing formation or opposite workable coal seams as herein provided. The surface casing of such wells shall not be withdrawn.

(D) IN WELLS DRILLED WITH CABLE TOOLS

In wells drilled and completed by cable tools, the producing formations and all workable coal seams must be protected as heretofore provided. As each string of casing is picked up or parted, it shall be raised one joint, and then approximately one-fourth ($\frac{1}{4}$) yard of native clay or mud dropped down the casing and allowed to settle below the base of casing.

When pulling casing from wells where caving occurs which partially fills the well bore the remainder of the hole shall be plugged as herein provided.

In such cases and also in wells where formation or walls of the hole do not cave, the hole shall be filled to within twenty-five (25) feet of the surface with native clay or Bentonitic materials.

In areas where in the drilling of the well it was necessary to drive pipe for the outside string in order to prevent caving or to protect fresh water horizons or formations, this drive pipe shall be left in place and not removed.

Where drive pipe is used it shall be cut off three (3) feet below the surface of the ground and a twenty-five (25) foot cement plug run inside the drive pipe and anchored thereto.

Where surface casing has been pulled, a cement plug shall be placed at a point three (3) feet

below the surface to a depth of twenty-five (25) feet.

In either event where drive pipe is used or the surface casing has been pulled, a mushroomed cement cap of approximately one (1) foot in thickness shall be placed at a point three (3) feet below the surface of the ground and allowed to mushroom until the diameter of the cement plug is at least three (3) times the diameter of the hole drilled, then the hole shall be filled with dirt and the surface of the ground leveled.

(E) WHEN CASING LEFT IN HOLE

In wells where casing is not removed when wells are abandoned, the plugging operation shall be done in the same manner as provided for abandoning wells where casing is withdrawn.

(F) FOREIGN MATERIAL PROHIBITED

No person shall knowingly or purposely place or lodge any foreign material or substance in an unplugged well which will either fill or bridge such hole.

When foreign material has been knowingly or purposely placed in the hole the Mining Board may require such material to be removed before plugging operations are commenced.

(G) PLUGGING BRIDGED HOLE

When in normal production or drilling operations the hole becomes plugged or obstructed because of loss of drilling tools or producing equipment which it would be impractical or impossible to remove, special consideration shall be allowed and the well shall be plugged as nearly to the aforementioned requirements as existing circumstances will permit. The exact method of plugging and the equipment lost shall be shown on the plugging affidavit.

(6) CONVERTING TO WATER WELL

When the fee owner of the surface desires to utilize a well to be abandoned for fresh water purposes, such well need not be filled above the fresh water strata or bed, but a twenty-five-foot (25) cement plug shall be placed immediately below such fresh water bed, provided, however, written authority for such use is secured from the fee owner who shall also sign and file with the Mining Board a release form furnished by the Mining Board, thereby releasing the owner, manager, or operator from all responsibility and statutory or other requirements for the further plugging of said well.

(7) RESTORATION OF SURFACE

The owner or manager shall, as soon as weather or ground conditions permit, upon the final abandonment and completion of the plugging of any well, clear the area around the location of all refuse material, burn waste oil, drain and fill all excavations, remove concrete bases, machinery and materials, and level the surface to leave the site as nearly as possible in the condition encountered when operations were commenced.

When the fee owner of the surface desires to utilize the pits dug in connection therewith, the fee owner shall sign and file with the Mining Board a release form furnished by the Mining Board, thereby releasing the owner, manager, or operator from all responsibility and statutory or other requirements for the further filling of the pits.

(8) EXTENSION OF TIME TO PLUG WELL

Upon written application for an extension of time to defer the plugging and abandonment of any unplugged well, the Mining Board, at its discretion, may grant such extension for a reasonable period of time when good cause can be shown by the person making the application, and provid-

ing the casing is all left in the well and is in sound condition. If water was encountered which will flood oil-bearing formations exposed in the open hole, the water-bearing formation below the casing seat shall be plugged off with cement. The top of the casing shall be securely capped.

If no bond covering such well is then in effect, a bond shall be given before the extension is granted, and such bond shall remain in full force and effect until the well is plugged and the other requirements of final abandonment have been completed.

At the expiration of any extension granted, the well shall be plugged and abandoned if a further extension is denied by the Mining Board.

(9) FILING PLUGGING AFFIDAVIT

Immediately after the plugging of any well has been accomplished, an affidavit shall be executed in duplicate and jointly signed by the owner or manager or his representative and the Mining Board Representative who supervised the plugging operation. The plugging affidavit, in duplicate, on a form furnished by the Mining Board, shall be filed in the office of the Oil and Gas Division of the Department of Mines and Minerals at Springfield, Illinois.

RULE XII

VALIDITY OF RULES AND REGULATIONS

In case any word, phrase, sentence, or other portion of these Rules and Regulations shall hereafter be declared invalid, such invalidity shall not affect the remaining portions and parts of the Rules and Regulations adopted or promulgated by the Department.

All former Rules and Regulations heretofore adopted by the Department are replaced and superseded by these Rules and Regulations upon their adoption by the Mining Board.

MINING BOARD FORMS

Form OG 10-A Rev.—Application for Authorization to Drill, Deepen or Convert a Well.

Form OG-2—Revised—Application for Salt Water Disposal Well.

Form OG-3 Revised—Application for Gas or Water Input Well For Secondary Recovery.

Surety Bond Form—For Individual Well or Blanket Bond.

Cash Bond Form—For Individual Well or Blanket Bond.

Suggested Form—Power of Attorney.

Post Card—Notice of Well Completion.

Form of—Release signed by landowner releasing operator of responsibility for filling pits.

Form of—Release signed by landowner releasing operator where top portion of well bore left unplugged for use as fresh water well.

Form for—Request to Cancel Bond.

Form of—Statement of Ownership.

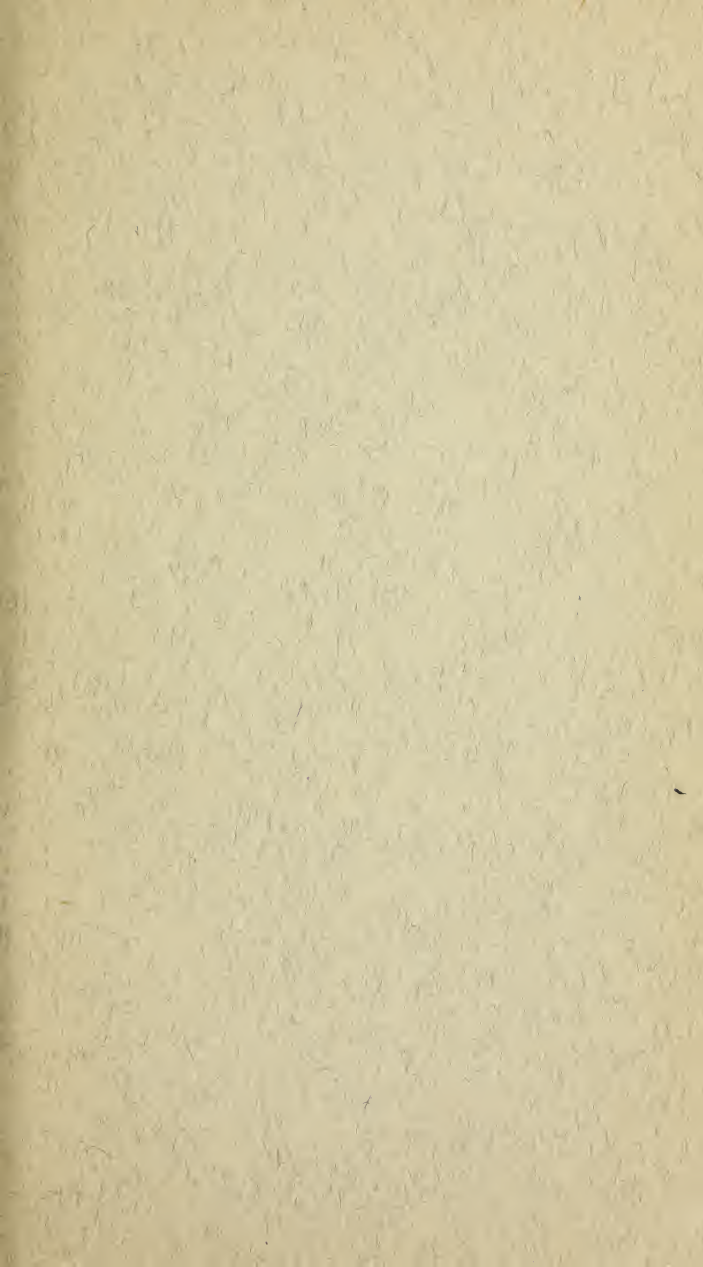
Application Card—For Permit to Drill Water Well.

Not Distributed to Public:

Form O.G. 6—Well Plugging Affidavit.

Form for—Notice of Violation.

Form for—Cancellation of Bond.



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1957

STATE OF ILLINOIS
WILLIAM G. STRATTON, Governor



**AN ACT IN RELATION TO OIL,
GAS, COAL AND OTHER
SURFACE AND UNDERGROUND
RESOURCES
AND
RULES AND REGULATIONS**

DEPARTMENT OF MINES & MINERALS
B. H. SCHULL, Director

DIVISION OF OIL AND GAS
S. F. PETERSON, Oil Conservation Supervisor

(Printed by Authority of the State of Illinois)

Revised Edition

1957

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STATE OF ILLINOIS
WILLIAM G. STRATTON, Governor



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INDEX

	Page
OIL, GAS and COAL ACT.....	3-19
RULES and REGULATIONS.....	20-72

RULE I

GENERAL PROVISIONS	21-27
Definitions	21-23
Prevention of Waste	23-24
Jurisdiction	24
Enforcement of Act	24
Delegation of Authority	24
Right of Inspection.....	24-25
Right of Access	25
Sworn Statements	25
Additional Reports	25-26
When Rules and Regulations Become Effective.....	26
Notice of Rules and Regulations.....	26
Forms	26
Hearings—Notice	26-27
Public Hearings	26-27
Publisher's Certificate	27
Other Hearings	27

RULE II

PERMITS	28-37
Application to be Filed.....	28
Copy of Evidence of Ownership to be Attached.....	28-29
When Permit to be Issued.....	29
Permit Issued to Owner or Manager.....	29
Permit Posted at Well Site.....	29
Authority to Deny Permit.....	29
Permits Not Transferable	29
Application for Permit to Drill or Deepen Well.....	30-33
Requirements	30
Drill Out or Deepen Plugged Well.....	30
Contents of Application	30-31
Fee	31
Expiration of Permit	31-32
Change of Location	32
Directional Drilling	32-33
Application for Permit for Geological or Structural Test Hole	33
Permits for Salt Water Disposal or for Gas, Air, Water, or Other Liquid Input Wells.....	33-35
Requirements for Permit	33-34
Notice to Other Owners or Managers.....	34
Authority to Deny Permit	35
Authority to Suspend Operations.....	35
Permit Requirements in Mine Areas.....	35-37
For Well Penetrating Mine.....	35-36
Agreement With Mine Owner.....	35-36
Requirements in Absence of Agreement.....	36
Requirements in Inactive Mining Areas.....	36-37
Notice to Mine Owner.....	37
Maps Available at Well Site.....	37

RULE III

	Page
BONDS	38-40
When Bonds Required—Amount.....	38
Kind of Bond—Execution	38-39
Surety or Cash Bond.....	38
Personal Bond	38-39
Execution of Bond	39
Bond of Manager	39
Bond Form—Approval	39
Surety May Cancel Bond.....	39-40
Requirements Before Bond May Be Canceled.....	40
Mining Board May Cancel Bond.....	40
Casing Puller's Bond	40

RULE IV

SPACING OF WELLS	41-48
General Spacing Rules	41-45
Wells Drilled or Deepened to Sandstone or Lime- stone Formations	41
Drilling Unit	41-42
Separately Owned Tracts Within Drilling Unit.....	42-43
Twin Wells	43
Wells Within Corporate Limits	43
Exceptions	43-45
Secondary Recovery	45-48
Pattern Flood	45-46
Other Floods	46-47
Record to be Kept	47-48
Nonconforming Well to be Plugged.....	48

RULE V

FILING OF LOGS AND WELL INFORMATION.....	49-50
Return of Completion Card	49
Well Log to be Filed.....	49
Contents of Well Log	49-50
Collection of Drill Cuttings.....	50

RULE VI

IDENTIFICATION OF LEASES AND TRANSFER OF MANAGEMENT	51
Lease and Well Identification.....	51
Transfer of Management	51

RULE VII

WASTE PROHIBITED	52-53
Avoidable Waste of Gas.....	52
Escape of Unburned Gas Prohibited.....	52
Burn-off Pits	52-53
Lease Tank Reservoirs	53
Fire Hazards at Well Locations.....	53

RULE VIII

PROTECTION OF WORKABLE COAL BEDS.....	54-59
Workable Coal Beds Defined	54
Mining Board May Determine Presence of Coal Seams.....	54-55
Well Locations Prohibited	55
Notice to Mining Board	55

	Page
Casing and Protective Work	55
Operational Requirements Over Active Mine.....	55-59
Mining Board to Determine Safety Factors.....	55-56
Drilling Methods and Procedure.....	56-58
General	56
Mine Protective String	56-57
Cementing Oil String	57
Temperature Survey Required	58
Shooting Wells Over Active Mines or Worked Out	
Portions of Active Mines	58-59
Shot Less Than Fifty Quarts.....	58
Shot Exceeding Fifty Quarts.....	59

RULE IX

DISPOSAL OF SALT WATER OR OTHER LIQUIDS	
TO PREVENT WASTE AS DEFINED IN THE ACT..	60-61
Mining Board Supervision.....	60
Disposal in Underground Stratum.....	60
Disposal in Earthen Pits	60-61
Pipes to be Kept in Repair.....	61

RULE X

VACUUM	62-63
Application for Use of Vacuum.....	62
Notice and Hearing on Application.....	62-63
Mining Board Authority.....	63

RULE XI

PLUGGING OF WELLS	64-71
Mining Board Supervision.....	64
When Well to be Plugged.....	64-65
Prior Notice to Mining Board Representative.....	65
Owner to Furnish Well Log.....	65
Plugging Methods and Procedures.....	66-69
Generally	66
Protection of Coal Seams.....	66-67
Shooting Casing in Rotary Hole.....	67-68
In Wells Drilled with Cable Tools.....	68-69
When Casing Left in Hole.....	69
Foreign Material Prohibited	69
Plugging Bridged Hole	69
Converting to Water Well	70
Restoration of Surface	70
Extension of Time to Plug Well.....	70-71
Filing Plugging Affidavit	71

RULE XII

VALIDITY OF RULES AND REGULATIONS.....	72
MINING BOARD FORMS.....	73

“An Act in relation to oil, gas, coal and other surface and underground resources.”

BE IT ENACTED BY THE PEOPLE OF THE STATE OF ILLINOIS, REPRESENTED IN THE GENERAL ASSEMBLY:

Sec. 1. Unless the context otherwise requires, the words defined in this Section have the following meanings as used in this Act.

“Person” means any natural person, corporation, association, partnership, receiver, trustee, guardian, executor, administrator, fiduciary or representative of any kind.

“Oil” means natural crude oil or petroleum and other hydrocarbons, regardless of gravity, which are produced at the well in liquid form by ordinary production methods or by the use of an oil and gas separator and which are not the result of condensation of gas after it leaves the underground reservoir.

“Gas” means all natural gas, including casing-head gas, and all other natural hydrocarbons not defined above as oil.

“Pool” means a natural, underground reservoir containing, in whole or in part, a natural accumulation of oil or gas, or both. Each productive zone or stratum of a general structure, which is completely separated from any other zone or stratum in the structure, is deemed a separate “pool” as used herein.

“Field” means the same general surface area which is underlaid or appears to be underlaid by one or more pools.

“Owner” means the person who has the right to drill into and produce from any pool, and to appropriate the production either for himself or for himself and another, or others.

“Manager” means the operator, whether the owner or not, of a well or wells drilled for oil or gas, or both.

“Department” means the Department of Mines and Minerals. “Director” means the Director of the Department of Mines and Minerals.

“Mining Board” means the State Mining Board in the Department of Mines and Minerals.

“Waste” means “physical waste” as that term is generally understood in the oil and gas industry; and further includes:

(1) the locating, drilling and producing of any oil or gas well or wells drilled contrary to the valid order, rules and regulations adopted by the Mining Board under the provisions of this Act.

(2) permitting the migration of oil, gas, or water from the stratum in which it is found, into other strata, thereby ultimately resulting in the loss of recoverable oil, gas, or both;

(3) the drowning with water of any stratum or part thereof capable of producing oil or gas, except for secondary recovery purposes;

(4) the unreasonable damage to underground, fresh or mineral water supply, workable coal seams, or other mineral deposits in the operations for the discovery, development, production, or handling of oil and gas;

(5) the unnecessary or excessive surface loss or destruction of oil or gas resulting from evaporation, seepage, leakage or fire, especially such loss or destruction incident to or resulting from the escape of gas into the open air, provided, however, it shall not be unlawful for the operator or owner of any well producing both oil and gas to burn such gas in flares when such gas is, pursuant to the other provisions of this Act, lawfully produced, and where there is no market at the well for such escaping gas; and where the same is used for the extraction of casinghead gas, it shall not be unlawful for the operator of the plant after the process of extraction is completed, to burn such

residue in flares when there is no market at such plant for such residue gas;

(6) permitting unnecessary fire hazards;

(7) permitting unnecessary damage to or destruction of the surface, soil, animal, fish or aquatic life or property from oil or gas operations.

Sec. 1.1. Waste as defined by this Act is prohibited.

Sec. 1.2. The Oil and Gas Board, in the Department of Mines and Minerals, shall be subject to call of the Mining Board for advice and consultation concerning:

1. The interpretation of rules, regulations, and laws affecting the conservation of oil and gas.

2. The promulgation of new rules and regulations pertaining to the conservation of oil and gas.

3. Technical information and operations concerning the improvement of methods, conditions, and equipment for the production of oil and gas.

4. The proper drilling, casing and plugging of oil wells.

5. The issuing of proper permits to drill oil and gas wells.

6. Any and all other subjects about which the Mining Board should seek information in relation to the oil and gas industry, except in situations involving drilling or operations through veins or seams of mineable coal, in which situations the entire authority and discretion shall remain in the Mining Board.

Sec. 2. The provisions of this Act shall not apply to mine or quarry drill or blast holes, nor to seismograph test holes, or to holes drilled to explore strippable coal.

The provisions of this Act shall not apply to geological or structure test holes, except that notification of intent to drill shall be filed with the Mining Board, and permit shall be obtained as provided in clause (2) of Section 6 of this Act and except that all geological or structure test holes drilled

below the glacial drift shall be plugged under the supervision of the Mining Board.

All wells drilled for water, except those which penetrate the subsurface below the glacial drift, are excepted from the provisions of this Act.

Sec. 3. The Mining Board shall be charged with the duty of enforcing this Act and all rules, regulations and orders promulgated in pursuance of this Act.

The Mining Board may authorize, in writing, any employee of the Department, qualified by training and experience, to perform in the Board's stead the powers and duties set forth in this Act, which do not require the exercise of administrative discretion.

Sec. 4. The Mining Board shall have jurisdiction and authority over all persons and property necessary to enforce effectively the provisions of this Act.

Sec. 5. The Mining Board shall have the authority and it shall be its duty, to employ all necessary personnel to carry out the provisions of this Act; to fix their compensation; to designate their headquarters and to define their duties. The aforesaid personnel shall be subject to the provisions of the "Personnel Code," enacted by the 69th General Assembly.

Sec. 6. The Mining Board shall have the authority to call hearings, to make, after hearing and notice as hereinafter provided, such reasonable rules, regulations, and orders as may be necessary from time to time in the proper administration and enforcement of this Act, including Rules, Regulations and Orders for the following purposes: (1) to require the drilling, casing and plugging of wells to be done in such a manner as to prevent the migration of oil or gas from one stratum to another; to prevent the intrusion of water into oil, gas or coal strata; to prevent the pollution of fresh water supplies by oil, gas or salt water, (2) to require the person desiring or proposing to drill any well in search of oil or gas, before commencing the drilling of

any such well, to make application to the Mining Board upon such form as the Mining Board may prescribe and to comply with the following provisions, viz: The drilling of any well is hereby prohibited until such application is made and the applicant is entitled to a permit therefor as provided by this Act; each application for a well permit shall indicate the exact location of such well, the name and address of the manager, operator, contractor, driller, or any other person responsible for the conduct of drilling operations, the proposed depth of the well, and such other relevant information not involving ownership as the Mining Board may deem necessary or convenient to effectuate the purposes of this Act; each applicant previous to drilling for oil or gas or any other purpose in connection therewith, and each manager or operator who has acquired or may hereafter acquire any well drilled for these purposes which has not theretofore been plugged and abandoned in accordance with the laws, rules, regulations and orders of the Mining Board, shall execute and file with the Mining Board a bond of \$1,000.00 for each of such wells, or in lieu thereof, a blanket bond in the sum of \$2,500.00 for all wells, provided that, nothing herein shall be construed to require more than one bond for such well at any one time, although successive bonds may be required until the well is abandoned and plugged; and each of such bonds shall be approved by the Mining Board on a form to be prescribed by the Mining Board, and shall provide for the compliance of plugging such well, or wells, the filling of all excavations, the removal of all concrete bases, discarded machinery and material, and restoring the surface as nearly as possible to its former condition before such well, or wells, was drilled; and such bond shall be renewed and be continued in effect until the aforesaid conditions have been fully complied with. In event of the assignment and transfer of the property covered by any bond, it shall remain in full force and effect

until the approval by the Mining Board of a similar bond which has been executed by the new owner and filed with it. (3) To require the filing of logs, including electric logs, and drilling records, and the lodgment in the office of the State Geological Survey of typical drill cuttings or cores, if cores are taken, within 30 days from the time of the completion of any well. (4) To prevent "blow-outs," "caving" and "seepage" in the same sense that conditions indicated by such terms are generally understood in the oil and gas business. (5) To prevent fires. (6) To ascertain and identify the ownership of all oil and gas wells, producing leases, refineries, tanks, plants, structures, and all storage and transportation equipment and facilities. (7) To regulate the secondary recovery in oil pools and oil fields. (8) To regulate or prohibit the use of vacuum. (9) To regulate the spacing of wells, the issuance of permits, and the establishment of drilling units. (10) To regulate directional drilling of oil or gas wells. (11) To regulate the plugging of wells. (12) To require that wells for which no logs or unsatisfactory logs are supplied shall be completely plugged with cement from bottom to top. (13) To require a description in such form as is determined by the Mining Board of the method of well plugging for each well, indicating the character of material used and the positions and dimensions of each plug. (14) To prohibit waste, as defined in this Act. (15) To require the furnishing of such relevant information as the Mining Board may from time to time deem necessary or convenient to carry into effect the purposes of this Act.

For the purposes of this Act, the State Geological Survey shall co-operate with the Mining Board in making available its scientific and technical information on the oil and gas resources of the State, and the Mining Board shall in turn furnish a copy to the State Geological Survey of all drilling permits as issued, and such other drilling and operating data received or secured by the Mining Board

which are pertinent to scientific research on the State's mineral resources.

Whenever rules, regulations or orders are mentioned in this Act, such terms have no application to any action by the Mining Board for the management of the internal affairs thereof.

Sec. 6.1. When the applicant has complied with all applicable provisions of this Act and the rules and regulations adopted by the Mining Board pursuant thereto concerning application for and the issuance of permits for the drilling of a well for oil or gas purposes upon a unit established under such rules, regulations and orders of the Mining Board, the Mining Board shall issue the permit.

Sec. 7. The Mining Board shall have the right at all times to go upon and inspect oil and gas properties from which oil or gas is being produced, or where drilling operations have been or are being conducted for the purpose of ascertaining whether the provisions of this Act and the Orders, Rules and Regulations made in pursuance of this Act are being complied with.

Sec. 8. The Mining Board shall have the authority and it shall be its duty to make such inquiries as it may think proper to determine whether or not waste, over which it has jurisdiction, exists or is imminent. In the exercise of such power the Mining Board shall have the authority to collect data; to make investigation and inspections; to examine properties, including drilling records and logs; to examine, check and test oil and gas wells; to hold hearings; and to take such action as may be reasonably necessary to enforce this Act.

Sec. 8A. The Mining Board shall have the power and authority to regulate the disposal of salt or sulphur-bearing water and any oil field waste produced in the operation of any oil or gas well, and to adopt proper rules and regulations relative thereto.

Sec. 9. (a) The Mining Board shall prescribe rules of order for procedure in hearings or other proceedings before it under this Act. (b) No rule, regulation or order, including change, renewal or extension thereof, shall, in the absence of an emergency, be made by the Mining Board under the provisions of this Act except after a public hearing upon at least ten days' notice given in the manner and form as may be prescribed by the Mining Board. Such public hearing shall be held at such time, place and in such manner as may be prescribed by the Mining Board and any person having any interest in the subject matter of the hearing shall be entitled to be heard. (c) In the event an emergency is found to exist by the Mining Board which requires the making, changing, renewal, or extension of a Rule, Regulation or Order without first having a hearing, such emergency rule, regulation or order shall have the same validity as if a hearing with respect to the same had been held after due notice. The emergency rule, regulation or order permitted by this subsection shall remain in force no longer than fifteen days from its effective date, and, in any event, it shall expire when the rule, regulation or order made after due notice and hearing with respect to the subject matter of such emergency Rule, Regulation or Order becomes effective.

(d) All Rules, Regulations and Orders made by the Mining Board shall be in writing and shall be entered in full in a book to be kept for such purpose by the Mining Board, which shall be a public record and open to inspection at all times during reasonable office hours. A copy of such Rule, Regulation, or Order, certified by the executive officer of the Mining Board, shall be received in evidence in all courts of this State with the same effect as the original. (e) Any interested person shall have the right to have the Mining Board call a hearing for the purpose of taking action in respect to any matter within its jurisdiction by making a request therefor in writing. Upon the receipt of any such

request the Mining Board promptly shall call a hearing thereon, and, after such hearing, and with all convenient speed and in any event within thirty (30) days after the conclusion of such hearing, shall take such action with regard to the subject matter thereof as it may deem appropriate.

Sec. 10. Any interested person affected by this Act or by any Rule, Regulation or Order made or promulgated by the Mining Board hereunder, who may be dissatisfied therewith, shall have the right to file a suit in the Circuit Court of the county wherein is situated any part of the land which is the subject matter of such action, to test the validity of any provision of this Act or any Rule, Regulation or Order made or promulgated hereunder. Such suit shall be advanced for trial and be determined as expeditiously as feasible, and no postponement, or continuance thereof shall be granted except for reasons deemed imperative by the court. In such trials, the burden of proof shall be upon the party complaining of the validity of this Act or any provision thereof or any Rule, Regulation or Order made or promulgated hereunder and any such Rule, Regulation or Order so complained of shall be deemed *prima facie* valid. An appeal may be taken from the ruling of the court as in other civil actions.

Sec. 11. Whenever it shall appear that any person is violating or threatening to violate any provision of this Act, or any Rule, Regulation or Order made hereunder, and unless the Mining Board, without litigation, can effectively prevent further violation or threat of violation, then the Mining Board, through the Attorney General, who may call to his assistance the State's Attorney of the county in which suit is instituted, shall bring suit in the name of the people of the State of Illinois against such person in the circuit court of the county wherein is situated any part of the land which is the subject matter of such action, to restrain such person from continuing such violation or from carrying out

the threat of violation. In such suit the Mining Board, in the name of the People of the State of Illinois, may obtain such injunctions, prohibitory and mandatory, including temporary restraining orders and temporary injunctions, as the facts may warrant.

Sec. 12. Before any drilling or deepening for oil or gas is done it shall be the duty of the person, having the custody or control of any land upon which he desires to drill, to secure from the Mining Board a permit for such drilling.

Sec. 13. Where an application is made to drill or deepen an oil or gas well within the limits of any city, village or incorporated town, the application shall so state, and be accompanied with a certified copy of the official consent of the municipal authorities for said well to be drilled, and no permit shall be issued unless consent is secured and filed with the application. In the event that an amended location is selected, the original permit shall not be valid unless a new certified consent is filed for the amended location.

Sec. 14. Each application for permit to drill or deepen shall be accompanied by a bank draft, certified check, or post office or express money order for twenty-five dollars (\$25.00) payable to the State of Illinois, same to be deposited with the Treasurer of the State of Illinois.

Sec. 15. Any permit to drill a well for oil or gas shall expire one year from the date of issuance unless acted upon prior thereto by the commencement of drilling operations which are to be continued with due diligence. It shall in all respects be subject to the provisions of this Act and the rules, regulations, limitations and penalties herein provided or which may hereafter be adopted for the drilling, operation or plugging of oil or gas wells, or other drilling operations.

Sec. 16. Every owner or operator of any oil or gas well may appoint a person to act as his At-

torney in fact to execute applications for permits to drill oil or gas wells, or any wells in connection therewith, and to execute bonds and any other papers relative to such permits. Such owner or operator shall file with the Mining Board a properly executed power of attorney on a form acceptable to the Mining Board. Every person so appointing an Attorney in fact shall, within five days after the termination of any such appointment, notify the Mining Board in writing of such termination.

Sec. 17. In case any person drilling an oil or gas well shall request a location over a portion of the coal where mining operations have not heretofore been conducted and where coal is in place, then said well shall be drilled and sunk with due regard for the plans for future development and extensions of said seams.

Sec. 18. In no event shall any high explosive be exploded in any well until twenty-four hours' notice of the intention has been given to the owner of any working coal seam.

Sec. 19. If when a well is sunk and there is no oil or gas found and such hole is what is commonly known as a "barren well" or "dry hole," or when a well is abandoned, then such hole shall be plugged in accordance with Rules and Regulations and Orders formulated in pursuance of the provisions of this Act. The Mining Board shall have power to determine what constitutes abandonment.

Sec. 20. No oil or gas well shall be drilled hereafter nearer than 250 feet to any opening to a working coal mine used as a means of ingress or egress for the persons employed therein or which is used as an air shaft, except by mutual agreement between the person owning or operating the mine and the oil or gas operator.

Sec. 21.1. The Mining Board is authorized to issue permits for the drilling of wells and to regulate the spacing of wells for oil and gas purposes, but no spacing regulation shall be adopted which re-

quires the allocation of more than twenty acres of surface area to an individual well for production of oil from a limestone formation, or more than ten acres of surface area to an individual well for production of oil from a sandstone formation, provided, however, that the Mining Board may permit the allocation of greater acreage to an individual well than that above specified, and provided further that the spacing of wells shall not include the fixing of a pattern except with respect to the two nearest external boundary lines of each unit, and provided further that no acreage allocation shall be required for input or injection wells nor for producing wells lying within a secondary recovery unit as now or hereafter established.

For the prevention of waste, to prevent the dissipation of the natural resources of this State, and to avoid augmentation and accumulation of risk arising from the drilling of an excessive number of wells, but subject to the above limitations, the Mining Board shall, after due investigation and a hearing, have full power and authority in accordance with the provisions hereof to establish such drilling unit or units as it may find to be reasonable and practicable, having consideration for the regional geological characteristics and all other pertinent facts conducive to the most efficient and economical ultimate recovery of oil and gas therefrom, and shall make such orders, rules and regulations as will regulate the spacing of wells within such limits.

Sec. 22.1. (a) When two or more separately owned tracts of land are embraced within an established drilling unit, the owners thereof may validly agree to integrate their interests and to develop their lands as a drilling unit. Where, however, such owners have not agreed to integrate their interests, the Mining Board shall, for the prevention of waste or to avoid the drilling of unnecessary wells, require such owners to do so and to develop their lands as a drilling unit.

(b) All orders requiring such integration shall be made after notice and hearing and shall be upon terms and conditions that are just and reasonable and will afford to the owner of each tract the opportunity to recover or receive his just and equitable share of oil and gas in the pool without unnecessary expense and will prevent or minimize reasonably avoidable drainage from each integrated unit which is not equalized by counter drainage, but the Mining Board may not limit the production from any well. The portion of the production allocated to the owner of each tract included in an integrated unit, formed by an integration order or by voluntary agreement, shall, when produced, be considered as if it had been produced from such tract by a well drilled thereon. In the event such integration is required, the operator designated by the Mining Board to develop and operate the integrated unit shall have the right to charge to each other interested owner the actual expenditures required for such purpose not in excess of what are reasonable, including charges for supervision, and the operator shall have the right to receive the first production from any well drilled by him thereon, which otherwise would be delivered or paid to the other parties jointly interested in the drilling of the well, so that the amount due by each of them for his share of the expense of drilling, equipping and operation of the well may be paid to the operator of the well out of production, with the value of the production calculated at the market price in the field at the time such production is received by the operator or placed to his credit. In the event of any dispute relative to such costs, the Mining Board shall determine the proper costs.

Sec. 23.1. The owner or owners of any tract of land which is productive or capable of being productive of oil or gas or any owner or operator of an oil and gas leasehold on which productive wells are situated, under a lease authorizing the lessee or his assigns to explore for and remove oil and

gas, from any sand, strata, or formation, shall be permitted, in the interest of oil and gas conservation, to introduce and inject air, gas, water, or other fluid under pressure upon such sand, strata or formation, for the purpose of recovering the oil and gas contained therein; provided, that the owner or operator of a well into which water or other fluid is to be introduced into the sand, strata, or formation, shall make a written application to the Mining Board for authority so to do, and provided that written approval has been granted him by the Mining Board; and provided further that the operation shall be done under the rules and regulations of the Mining Board; and further provided, that such introduction or injection of air, gas, water or other liquid under pressure upon or into such sand, strata or formation shall not be deemed to be an unlawful act.

Sec. 23.2. (a) When two or more separately owned tracts of land are embraced within a pool or a portion of a pool suitable for secondary recovery methods, the owners thereof may validly agree to integrate their interest therein and to develop their land as a unit, and production from any tract in such established unit shall be regarded as production from all presently owned tracts or interests within such units.

(b) Agreements made in the interest of conservation of oil or gas, or both, or the prevention of waste, between and among owners or operators, or both, owning separate holdings in the same oil or gas pool, or in any area that appears from geological or other data to be underlain by a common accumulation of oil or gas, or both, or between and among such owners or operators, or both, and royalty owners therein, of a pool or area, or any part thereof, as a unit for establishing and carrying out a plan for the cooperative development and operation thereof, when such agreements are approved by the Mining Board, are hereby authorized and shall not be held or construed to violate any of the stat-

utes of this State relating to trusts, monopolies or contracts and combinations in restraint of trade.

Sec. 24. The provisions of this Section shall not apply to any city, village or incorporated town which has enacted or hereafter enacts an ordinance or resolution limiting the locating or spacing of wells.

Not more than one permit per pool for each block shall be issued for any city, village or incorporated town in which oil or gas is discovered on or after July 29, 1941. In any city, village or incorporated town in which oil or gas is discovered prior to July 29, 1941, not more than one permit per pool for each block shall be issued for any block in which no oil or gas well has been or is being drilled to any such pool prior to said date.

Sec. 25. No power herein granted to prevent waste shall be interpreted or construed as authorizing limitation of production of any well, wells, lease, leases, pool, field or properties to prevent or control economic waste or limit production to market demand.

Exploration and discovery of new and additional pools, fields and producing horizons are vital and the effect and administration of this Act shall be in accordance therewith and not contrary thereto. Any Rule, Regulation or Order issued under the general powers of this Act in violation of the provisions of this Section shall be void and of no effect.

Sec. 26. (a) Any person who violates any provision of this Act or who, after notice of any valid rule, regulation or order of the Mining Board made hereunder, violates, repeats or continues the violation thereof, shall be subject to a fine of not to exceed \$50 a day for each and every act of violation. (b) Any person wilfully aiding or abetting any other person in the violation of any provision of this Act, or any Rule, Regulation and Order

made hereunder, shall be subject to the same penalties as are prescribed herein for the violation by such other person.

Sec. 27. "An Act in relation to sinking, filling and operating of wells for oil, gas, water or other purposes," approved May 16, 1905, as amended, is repealed.

Sec. 28. If any section, paragraph, sentence or phrase of this Act shall be declared unconstitutional, or void for any reason by any court of final jurisdiction, such fact shall not in any manner invalidate or affect any other section, paragraph, sentence or phrase of this Act, but the same shall continue in full force and effect.

Effective July 12, 1951.

An Act concerning the production of oil and gas.

Whereas, in order to promote the development, production and utilization of the natural resources of oil and gas within the State of Illinois, it is in the public interest to encourage, authorize, and provide for the maximum recovery of oil and gas in the State, by the use and employment of fluid injection into productive oil and gas formations, including the use of secondary recovery methods, and also including cycling and recycling of gas, pressure maintenance, repressuring, and injection of air, gas, water and other fluids into productive horizons or strata, and to declare the law of the State in regard thereto, therefore:

BE IT ENACTED BY THE PEOPLE OF THE STATE OF ILLINOIS, REPRESENTED IN THE GENERAL ASSEMBLY:

Section 1. It is hereby declared to be the law of the State of Illinois that the grant in an oil and gas lease or contract to a lessee or operator of the right or power, in substance, to explore for and remove all oil and gas from any lands

in the State of Illinois, in the absence of an express provision to the contrary therein contained, includes the right of the lessee, or his heirs or assigns, to do what a prudent operator using reasonable diligence, would do having in mind the best interests of the lessor and lessee, in producing and removing oil and gas, and includes the use of practices and methods employed by the oil and gas industry, including the injection of air, gas, water and other fluids into the productive formations or strata, and cycling and recycling of gas, when done upon the authority of and under the Rules, Regulations and Orders of the Department of Mines and Minerals of the State of Illinois, as heretofore created or other Department or Commission hereafter created and authorized by law hereafter to administer the laws relating to the production of oil or gas, or both, in the State of Illinois.

Effective July 11, 1951.

An Act to amend Section 221 of Division I of "An Act to revise the law in relation to criminal jurisprudence" approved March 27, 1874, as amended.

BE IT ENACTED BY THE PEOPLE OF THE STATE OF ILLINOIS, REPRESENTED IN THE GENERAL ASSEMBLY:

Section 1. Section 221 of Division I of "An Act to revise the law in relation to criminal jurisprudence," approved March 27, 1874, as amended, is amended to read as follows:

DIVISION I.

Sec. 221. It is a public nuisance:

* * *

10. To permit any well drilled for oil, gas, salt water disposal or any other purpose in connection with the production of oil and gas, to remain unplugged, after such well is no longer used for the purpose for which it was drilled.

11. To construct or operate any salt water pit or oil field refuse pit, commonly called a "burn out pit", so that salt water, brine or oil field refuse or other waste liquids may escape therefrom in any manner except by the evaporation of such salt water or brine or by the burning of such oil field waste or refuse.

12. To permit concrete bases, discarded machinery and materials to remain around any oil or gas well, or to fail to fill any holes, cellars, slush pits and other excavations made in connection with any such well or to restore the surface of the lands surrounding any such well to its condition before the drilling of any such well, upon abandonment of any such oil or gas well.

13. To permit any salt water, oil, gas, or other wastes from any well drilled for oil, gas, or exploratory purposes to escape to the surface, or into a mine or coal seam, or into any underground fresh water supply, or from one underground stratum to another.

Effective July 23, 1943.

RULES AND REGULATIONS
of the
DEPARTMENT OF MINES AND MINERALS
for the
OIL AND GAS DIVISION

(Approved and adopted November 7, 1951)

In order to properly administer and enforce the provisions of an Act of the General Assembly of the State of Illinois entitled

“An Act in Relation to Oil, Gas, Coal and other Surface and Underground Resources, and to Repeal an Act Herein Named” filed July 29, 1941, as amended by an Act approved July 24, 1945 and as amended by an Act approved July 12, 1951

and to prevent waste as defined in said Act as amended, to promote the maximum ultimate recovery of oil and gas from the various pools, fields and reservoirs in the State of Illinois and to protect the vested or co-equal rights of the owners of oil, gas, coal and other surface and underground resources, the following Rules and Regulations are hereby adopted and promulgated by the Department of Mines and Minerals of the State of Illinois.

RULE I

GENERAL PROVISIONS

(1) DEFINITIONS

“THE ACT”—When used herein shall refer to and mean the provisions of the aforementioned Act of the General Assembly of the State of Illinois, as amended.

“CEMENT”—As used herein shall mean Portland or “neat” cement.

“MINING BOARD REPRESENTATIVE”—When used herein shall mean any employee of the Department of Mines and Minerals of the State of Illinois, who is qualified by training and experience, and is authorized by the Director in writing, to perform in his stead the powers and duties set forth in the aforementioned Act, which do not require the exercise of administrative discretion or that may be prescribed by the Rules, Regulations or Orders of the Mining Board adopted or promulgated pursuant thereto.

“DEVELOPMENT”—Shall mean any work or operation on or appurtenant to the oil and gas leasehold premises, which actively looks toward the drilling of wells for oil or gas, or the discovery of or bringing in production.

“LEASE TANK”—Shall mean the tank or other receptacle into which oil is produced either directly from a well or from a well through a gas separator, gun barrel or similar equipment.

“LOG”—Shall mean the systematic detailed written record correctly describing the strata

and formations progressively encountered in the drilling of a well for oil or gas, including water, oil and gas formations or other underground resources, with such additional data as is usually recorded in the normal procedure of drilling, including electric surveying or logging.

“MUD-LADEN FLUID”—Shall mean any approved mixture of water and clay or other suitable material as the term is commonly used in the industry which will effectively seal the formation to which it is applied.

“PLUG OR PLUGGING”—Shall mean the abandoning of a producing, nonproductive or nonoperative well; or the stopping of the flow of oil, gas, or water in a well.

“OIL STRING”—Shall mean that string of casing placed in a well and used for the purpose of segregating the horizon or formation from which production is obtained and affording a means of bringing the oil or gas from such productive horizon or formation to the surface.

“REPRESSURE”—Shall mean to increase the reservoir pressure by the introduction of gas, air or water or other fluid into the reservoir.

“ROTARY DRILLING”—Shall mean the hydraulic process of drilling a well for oil or gas as such method is commonly used in the industry.

“SHOOTING”—Shall mean the exploding of nitroglycerin or other high explosives in a well hole for the purpose of discovering or increasing the production of oil or gas therefrom or in perforating or parting the pipe therein.

“SPECIAL MUD MATERIALS”—Shall mean weighting material such as barium sulphate, Bentonitic clays, salt-resistant clays, filtration reduction agents and fibrous materials.

“UNDEVELOPED LIMITS OF A MINE”—The undeveloped limits of a mine are that portion of a mine where the entries have not been driven to the boundaries of the mine property.

“VACUUM”—Shall mean pressure which is reduced below the pressure of the atmosphere.

“WASTE LIQUIDS”—Shall mean oil field brines, cut oil, bottom sediments, concentrated sulphur water and acid waters.

“WELL”—Shall mean any well drilled for the purpose of discovering oil or gas, or any other purpose in connection with the exploration and production of the same including gas, air and water input wells.

“DIRECTIONAL DRILLING”— Shall mean the controlled directional drilling when the bottom of the well bore is directed away from the vertical position.

“DRILLING UNIT”—Shall mean (A) ten (10) acres of surface area allocated to an individual well drilled or deepened for the production of oil or gas from a sandstone formation, or (B) twenty (20) acres of surface area allocated to an individual well drilled or deepened for the production of oil or gas from a limestone formation.

“PATTERN FLOOD”—Shall mean a definite geometric arrangement of the input wells and the producing oil wells with a constant distance between the input and oil wells for any definite pattern.

(2) PREVENTION OF WASTE

All owners, managers, contractors, drillers, service companies, pipe pulling and salvage contractors or other persons drilling, casing or plugging oil or gas wells in this State shall at all times

conduct their operations, and drill, case, plug and abandon the same in the manner set forth by the Act or as hereinafter provided, so as to prevent waste or the escape of oil or gas out of one stratum to another, prevent the intrusion of water into oil, gas, or coal strata, and prevent the pollution of fresh water supplies by oil, gas, salt water, or sulphur-bearing water.

(3) JURISDICTION

As provided in the Act, the Mining Board shall have jurisdiction and authority over all persons and property necessary to enforce effectively the provisions of the Act.

(4) ENFORCEMENT OF ACT

The Mining Board of the Department of Mines and Minerals of the State of Illinois, being charged with the duty of enforcing the provisions of the Act and all valid Rules, Regulations and Orders adopted and promulgated pursuant thereto, may enforce or cause same to be enforced by action initiated by the Oil and Gas Division of the Department of Mines and Minerals.

(5) DELEGATION OF AUTHORITY

The Mining Board may authorize in writing any employee of the Department (herein designated Mining Board Representative) qualified by training and experience, to perform in his stead the powers and duties set forth in the Act, which do not require the exercise of administrative discretion, or that may be prescribed by the Rules, Regulations or Orders of the Mining Board adopted and promulgated pursuant thereto.

(6) RIGHT OF INSPECTION

Any authorized Mining Board Representative shall have the right at all times to go upon and inspect any oil and gas leasehold premises or property where drilling operations are or have been conducted, or from which oil or gas is being produced, for the purpose of making any investigation

or tests to ascertain whether the provisions of the Act or the Rules, Regulations or Orders of the Mining Board are being complied with, and shall make due and timely report of any violation thereof.

(7) RIGHT OF ACCESS

Any authorized Mining Board Representative shall have access to all well records wherever located. All persons having the custody or jurisdiction of the same shall permit the authorized Mining Board Representative to come upon any leasehold or other premises or property operated or controlled by them and have access at all times to, and inspect records pertaining to the drilling, completion, operation or plugging of any well drilled in this State, provided always that any information so obtained shall be considered confidential, and reported to, and only to, the Oil and Gas Division in the Department of Mines and Minerals; except that, any information so obtained may be presented as evidence in any proceeding concerned with any alleged violation of the Act or any valid Rule, Regulation or Order adopted or promulgated pursuant thereto.

(8) SWORN STATEMENTS

The Mining Board shall require sworn statements or affidavits when it is deemed to be expedient or necessary to effectuate the provisions of the Act. When such sworn statements or affidavits are required the same shall be sworn to before an officer or person authorized to administer oaths in the state where oath is taken.

(9) ADDITIONAL REPORTS

When requested in writing by the Mining Board, any oil well servicing company or other person or persons in the control or custody thereof, shall furnish and file with said Division any reports and records showing gun perforation, squeeze, cementing, shooting or chemical treatment of any well or

wells, which information shall also be considered as confidential, except when presented as legal evidence in any court proceedings concerned with any alleged violation of the Act or any valid Rule, Regulation or Order adopted or promulgated pursuant thereto.

(10) WHEN RULES AND REGULATIONS BECOME EFFECTIVE

All rules and regulations herein shall be in full force and effect when adopted and promulgated by the Mining Board, after notice and hearing as provided by the aforementioned Act, except as the same may hereafter be amended, modified, altered or enlarged in the same manner by the Mining Board.

(11) NOTICE OF RULES AND REGULATIONS

When the Mining Board issues any order under its Rules or Regulations, or under the Act, and mails a copy of the same by registered mail to the owner or manager concerned, with return receipt requested, it shall constitute legal notice of any such order of the Mining Board.

(12) FORMS

The Oil and Gas Division of the Department of Mines and Minerals shall prescribe and prepare all forms required under the Rules and Regulations herein and, when requested, shall furnish requisite copies of either thereof to any interested person requiring use of the same.

(13) HEARINGS—NOTICE

The Mining Board shall have authority to call public hearings or private hearings involving interested parties concerning matters pertaining to oil and gas activities.

(A) PUBLIC HEARINGS

A notice of public hearing as provided by the aforementioned Act shall be given by publish-

ing one (1) notice of the time and place thereof in at least five (5) newspapers of general circulation within the main oil-producing counties of Illinois, and such notice shall be published at least ten (10) days prior to the date of such hearing.

(B) PUBLISHER'S CERTIFICATE

Whenever notice of a hearing or Mining Board action is required to be published in a newspaper of general circulation, each publisher of the newspaper publishing said notice shall file with the Mining Board a copy of the published notice with an affidavit setting forth the date such notice was published in said newspaper.

(C) OTHER HEARINGS

A notice of hearings other than public hearings may be given by mailing a notice of the time and place of such hearing, by registered mail, with a return receipt requested, to the last known address of all persons concerned in the matter to be heard. Such notice shall be mailed at least ten (10) days prior to the date of the hearing.

In addition to such notice, the Mining Board may publish a notice of such hearing, in one (1) issue, of one (1) or more newspapers in or near the vicinity of the area involved in the matter to be heard.

RULE II

PERMITS

(1) GENERAL PROVISIONS

All applications for permits shall conform or be subject to the following requirements:

(A) APPLICATION TO BE FILED

All applications for permits shall be signed by the owner or manager or by a person authorized to sign for such owner or manager or by a member of an established firm, partnership, or association. Any person may sign for a corporation who is duly authorized so to do. Persons so authorized shall either sign personally or as Attorney in fact. If such person signs as an Attorney in fact, then a certified copy of the power of attorney shall accompany the application, unless one has been previously filed with the Mining Board.

If the application is signed by the manager, he shall furnish the Mining Board with a signed statement accompanying the application that he is the managing operator of the well and will be solely responsible for any and all violations of the Illinois Statutes and the Mining Board Rules and Regulations in the drilling, testing, completion, operation, and plugging of the well. The manager's responsibility for violations ceases if a new manager is appointed and furnishes the Mining Board with a signed managing operator's statement, as above provided.

(B) COPY OF EVIDENCE OF OWNERSHIP TO BE ATTACHED

No person shall be issued a permit for any purpose unless he has custody and control of the lands involved, either by being the fee owner

or by having a valid lease or agreement with the owners of the right to drill for oil and gas on the lands in question, proof of which shall be submitted by the applicant, by either attaching to the application certified copies of the original instruments or photostatic copies thereof, or, at the election of the applicant, by submitting a form to be furnished by the Mining Board, setting forth all such pertinent facts, which shall be subscribed and sworn to by the applicant, who shall certify the facts contained therein are true.

(C) WHEN PERMIT TO BE ISSUED

No permit shall be issued by the Mining Board until the applicant has fully met all requirements and the application is approved by the Department.

(D) PERMIT ISSUED TO OWNER OR MANAGER

All permits shall be issued by the Mining Board in the name or names of the person, firm or corporation for whom the application is made and who furnishes the bond.

(E) PERMIT POSTED AT WELL SITE

When fee permits are required no person shall commence drilling operations until the permit has been issued by the Mining Board and the original, a duplicate or a photostatic copy thereof posted at the well site.

(F) AUTHORITY TO DENY PERMIT

The Mining Board shall have authority to deny a permit to any person, when such person is in violation of the aforementioned Act or any valid and lawful Rule, Regulation or Order adopted or promulgated by the Mining Board.

(G) PERMITS NOT TRANSFERABLE

Permits issued under the Act are not transferable.

(2) APPLICATION FOR PERMIT TO DRILL OR DEEPEN WELL

(A) REQUIREMENTS

Before any person shall spud in or commence the actual drilling of any well for the discovery of oil or gas or commence operations to deepen any well to a different geological formation, such person shall file with the Oil and Gas Division of the Department, an application for a permit to drill or deepen such well on such form as the Mining Board shall require.

(B) DRILL OUT OR DEEPEN PLUGGED WELL

In order to drill out or deepen a previously plugged well, the same requirements shall apply as stated in Rule II (2) (A) except that no permit shall be issued to drill out or deepen a previously plugged well which is located less than 330 feet from the two nearest external boundary lines of the drilling unit. Exceptions shall be granted when the plugged well adjoins or is on that part of a leasehold on which secondary recovery operations are now or hereafter established.

(C) CONTENTS OF APPLICATION

The application for a permit shall include the following information, viz:

The name of the leasehold and exact location, by plat, of the well proposed to be drilled or deepened and the approximate location of producing wells previously drilled to the same formation on said leasehold, together with the name and approximate location of the offset well or wells on adjoining leaseholds, and a statement as to whether or not such proposed well location is within the limits of any incorporated city, town, or village.

Applications for permits shall be certified to by a registered Illinois land surveyor or registered professional engineer who works for the extraction of minerals from the earth.

The application shall include the names and addresses of lessor, lessee, owner, or manager and the person responsible for the conduct of drilling operations, and the name of the contractor, if available. The application shall also indicate the type of drilling tools or equipment to be used and the lowest proposed depth and geological formation to be tested.

When the applicant is not the individual owner or manager, if the applicant is a partnership, firm, association, or corporation, and if a corporation, whether its charter authorizes oil operations. If an assumed business name is used, whether it is registered as provided by the Illinois Statutes, giving county of registration.

(D) FEE

The applicant shall remit with the application to either drill, or deepen a well to a different geological formation, a fee of twenty-five dollars (\$25.00) by check, draft, Post Office or Express Money Order payable to the State of Illinois and shall give bond as hereinafter provided.

(E) EXPIRATION OF PERMIT

All permits shall be issued to cover a period of one (1) year from the date of issue and shall expire at that time unless acted upon prior thereto by the commencement of drilling operations at the location specified in said permit, and the drilling operations shall be continued with due diligence until the well is completed as a producer or has been completed at the authorized formation named in the permit; provided always that the Mining Board shall have the authority to revoke a permit when the Mining Board finds

that any fraud, deceit, or misrepresentation was made to obtain the issuance of said permit.

Each such permit shall expire before the period of one (1) year from date of issue when and as the permittee has completed the work specified in such original permit and the well is abandoned as a dry hole or the terms of the lease on the lands in question expire by their own limitation or the lease is canceled or forfeited in the manner provided by law.

In the event the well for which a permit was issued be productive of oil or gas, then such permit shall continue in full force and effect so long as oil or gas or other petroleum products are produced, saved, or marketed therefrom.

(F) CHANGE OF LOCATION

If a permittee requests a change of location for the drilling of the well before its completion and such change is upon the same lease and is not over thirteen hundred and twenty (1320) feet from the original location and such proposed change meets with the approval of the Mining Board, the permittee shall return the original permit together with an amended application for such change of location.

(G) DIRECTIONAL DRILLING

In controlled directional drilling when the intent is to direct the bottom of the well bore away from the vertical position, in addition to an application for a well permit the applicant shall furnish the Mining Board with the proposed direction of deviation and proposed horizontal distance between the bottom of the well bore and the surface location. If a permit is issued by the Mining Board, the permittee shall file with the Mining Board, within thirty (30) days after the completion of the well, a certified accurate and complete copy of the directional survey of said well. No person, company, or organization shall

direct, or assist in directing, any well bore away from the vertical position until the Mining Board has issued a permit for such directional drilling.

(3) APPLICATION FOR PERMIT FOR GEOLOGICAL OR STRUCTURAL TEST HOLE

As provided by the Act, the Mining Board shall require any person desiring or proposing to drill geological or structural test holes in connection with any operation for the exploration or production of oil or gas, to secure a permit therefor. In addition to complying with all provisions enumerated herein, the applicant shall give bond as further required by the Act, and shall also indicate the type of drilling tools to be used and the lowest proposed depth and geological formations to be tested. No permit fee is required for this type of test hole.

Mine or quarry drill or blast holes, seismograph test holes or holes drilled to explore strippable coal are exempt from the provisions of the Act. All wells drilled for water which do not penetrate the subsurface below the glacial drift are also exempt from the provisions of the Act.

(4) PERMITS FOR SALT WATER DISPOSAL OR FOR GAS, AIR, WATER, OR OTHER LIQUID INPUT WELLS

In order to prevent waste as defined in the Act, the Mining Board shall require any person desiring to convert any well now drilled, or any person desiring to drill or deepen a well for the purpose of injecting gas, air, water, or other liquid into any underground formation or strata to secure a NO FEE permit therefor.

(A) REQUIREMENTS FOR PERMIT

In addition to complying with all provisions enumerated and required in Section (1) "GENERAL PROVISIONS" above, the applicant for a permit for a salt water disposal well

or for a gas, air, water, or other liquid input well shall provide a bond as required by the Act.

In the application for a permit for such input well, the applicant shall indicate the location of all producing oil and gas wells, drilling wells or abandoned holes, within one-half ($\frac{1}{2}$) mile radius and all mines or mined out areas or the undeveloped limits of a mine within a like distance of such proposed well, together with the names and addresses of their owners, the name and description of the substance to be injected, and the depths and formation where the proposed injection will be made. The applicant shall also submit the log of such input well if previously drilled, and description and character of casing and cementing operations behind the same, and size of hole drilled.

(B) NOTICE TO OTHER OWNERS OR MANAGERS

Every person desiring to inject any such substance into an underground formation or stratum, shall notify the owners or managers of every oil or gas well, including those drilling or temporarily abandoned, and the owner of every mine, including the mined-out and undeveloped limits of any mine, within a one-half ($\frac{1}{2}$) mile radius, by registered mail on or before the day the application is filed with the Mining Board, and proof of such notice shall accompany said application. The name of the formation shall be included in the notice, and the approximate depth of the top and bottom of the formation to be injected is to be given. On receipt of such application and proof, the Mining Board shall hold the application for ten (10) days pending the filing of objections. In event objection is made within such time or the Mining Board deems a hearing should be had, notice shall be given to each objector and the applicant of the time and place designated by the Mining Board for such hearing.

(C) AUTHORITY TO DENY PERMIT

The Mining Board shall have authority to deny a permit when, in its judgment, there is danger of waste or when it believes the proposed protective work is not sufficient to confine the substance injected to the intended strata.

(D) AUTHORITY TO SUSPEND OPERATIONS

At any time it seems apparent that the injected substance is not being confined to the intended stratum and is migrating to other stratum or to the surface, the Mining Board shall have authority to suspend operations and after notice and hearing to prohibit the further use of any such well for said purposes.

(5) PERMIT REQUIREMENTS IN MINE AREAS

(A) FOR WELL PENETRATING MINE

When the location of a well to be drilled for oil or gas, or any purpose in connection therewith, will penetrate an active mine or through the mined out and inaccessible or sealed off area of an active mine, or shall penetrate the same in a temporarily abandoned mine, or the undeveloped limits of any such mine property, a drilling permit shall not be issued by the Mining Board until an agreement shall be reached between the owner of the proposed well and the mine owner, or in the event of failure to reach such an agreement a permit will not be issued until a hearing is held as hereinafter provided.

(1) AGREEMENT WITH MINE OWNER

A copy of such agreement, jointly signed by the applicant for a permit and the mine owner agreeing to the drilling of the well and the proposed location, shall be filed with the application and accompanied by a map or sketch showing the well location, its relation

to shafts and mine buildings, and to each coal seam or seams and mine workings underlying applicant's lease, or a statement from the mine owner that the location is over the undeveloped limits of the mine.

(2) REQUIREMENTS IN ABSENCE OF AGREEMENT

In the absence of such an agreement or statement, the applicant shall file with application for permit a map or sketch showing the well location, its relation to shafts and mine buildings, if any, as well as its relation to the mine workings underlying applicant's lease, with a sworn statement that a true and exact copy of application and accompanying exhibits was mailed postage prepaid to the coal company or its authorized agent in Illinois, by United States registered mail.

If within ten (10) days from the receipt of the application for permit by the Mining Board no written objections are filed, the Mining Board shall issue or deny the permit.

Upon the filing of objections to the issuance of the permit, the Mining Board shall promptly set the matter for hearing and decision.

(B) REQUIREMENTS IN INACTIVE MINING AREAS

In inactive mining areas where the existence of workable coal is known to be present and the ownership of such workable coal has been recorded in the county records, the applicant for a permit to drill a well for oil and gas or to drill any well in connection with the production of oil and gas shall notify the owner of said workable coal by registered mail with return receipt requested. The notice shall show the exact location of the proposed test and the approximate depth of the formation to be tested. The Mining Board shall be furnished with a copy of the notice at-

tached to the application for permit, with the return receipt from the owner of the workable coal or, in lieu thereof, a sworn statement that the applicant has the return receipt in his possession, giving the names and addresses of the owners of the coal rights and date of delivery of the notice.

(1) NOTICE TO MINE OWNER

No permit shall be issued to the applicant until ten (10) days have elapsed following the receipt of the registered notice by the owner of the workable coal.

(2) MAPS AVAILABLE AT WELL SITE

The permittee shall have an exact copy of the maps and sketches filed by him with the application for a permit at the well site, for the use of the Mining Board and its representatives.

RULE III

BONDS

(1) WHEN BONDS REQUIRED—AMOUNT

As provided by the aforementioned Act, the Mining Board shall require every person previous to the commencement of drilling for oil, gas or any other purpose in connection therewith, and every person who has created or acquired any well drilled for these purposes which has not been plugged and abandoned in accordance with the Laws, Rules, Regulations or Orders of the Mining Board, to execute and file with the Mining Board a bond of one thousand dollars (\$1000) for each of such wells, or in lieu thereof a blanket bond in the sum of twenty-five hundred dollars (\$2500) for all wells to provide for the compliance with the provisions of the aforementioned Act and all amendments thereof and to the Rules, Regulations and Orders of the Mining Board issued under the provisions of said Act and all amendments thereto.

(2) KIND OF BOND—EXECUTION

(A) SURETY OR CASH BOND

When surety bonds are given they shall be executed by a responsible surety company authorized to do business in the State of Illinois.

Cash bonds on Departmental form are acceptable when accompanied by certified check payable to the State of Illinois.

(B) PERSONAL BOND

If any other type of bond is given, the principal and the surety shall be bona fide residents of Illinois. The Mining Board is authorized to scrutinize and investigate each bond before it shall be approved or rejected, and the Mining

Board shall have thirty (30) days to pass on the sufficiency of any such bond.

(C) EXECUTION OF BOND

The Mining Board shall not approve any bond until it is personally signed and acknowledged by both the principal and surety, or for them by an attorney in fact with a certified copy of the power of attorney attached thereto.

(3) BOND OF MANAGER

The person, firm or corporation in whose name the permit is issued shall be named as principal on the bond and shall execute same for such well, together with a written statement to the Mining Board that he is the manager and will be solely responsible for any and all violations of the aforementioned Act or any Rule, Regulation or Order of the Mining Board adopted or promulgated pursuant thereto, that may occur in the drilling, operation or plugging of the well. Where the holder of a fractional working interest in the leasehold is designated as manager, he may furnish a bond.

(4) BOND FORM—APPROVAL

All bonds shall be given on a form to be prescribed by the Mining Board and shall be subject to its approval. The Mining Board may at any time request a new bond or additional sureties when it has reason to believe the present bond is inadequate.

(5) SURETY MAY CANCEL BOND

On thirty (30) days' written notice given to the Mining Board, any surety may cancel a bond or remove himself as surety, and in event of such, the surety shall not be responsible under the terms of the bond beyond the thirty-(30) day period after notice is given to the Mining Board, but shall continue to be liable for all the liabilities accruing under the bond during the period of the time he, they or it was the surety thereon.

(A) REQUIREMENTS BEFORE BOND MAY BE CANCELED

The provisions of the laws of the State of Illinois require the plugging of the well, or wells, the filling of all excavations, the removal of all concrete bases, discarded machinery and material, and restoring the surface as nearly as possible to its former condition before such well, or wells, was drilled; and such bond shall be renewed and be continued in effect until the aforesaid conditions have been fully complied with.

(6) MINING BOARD MAY CANCEL BOND

A bond given in accordance with the provisions of this rule may, upon not less than thirty (30) days' written notice to the Mining Board, be cancelled by the Mining Board, upon satisfactory proof's being furnished to the Mining Board by the principal or surety that all conditions and provisions of said bond have been fully complied with. In the event of a default by the principal in any of the conditions of the bond, the surety or sureties on such bond shall be responsible for the immediate and full compliance with the conditions of said bond.

(7) CASING PULLER'S BOND

Any person engaged in pulling casing from abandoned oil or gas wells and wells used in connection therewith, who purchases such wells for the purpose of salvaging material from the same, shall file a bond with the Mining Board in the sum of one thousand dollars (\$1000) for an individual well or in lieu thereof a blanket bond in the sum of twenty-five hundred dollars (\$2500) to guarantee the ultimate plugging of these wells conformable with the Rules, Regulations and Orders of the Mining Board, including the restoration of the ground conditions, such as filling the pits, leveling the well site, and cutting off surface pipe below plow depth, if the ground conditions have not previously been rectified by the prior owner of such well or wells.

RULE IV

SPACING OF WELLS

(1) GENERAL SPACING RULES

The Mining Board shall not issue a permit for the drilling or deepening of a well for the production of oil or gas within the State of Illinois unless the proposed well location and spacing substantially conform to the following:

(A) WELLS DRILLED OR DEEPENED TO SANDSTONE OR LIMESTONE FORMATIONS

(1) The well shall be located not less than 330 feet from the two nearest external boundary lines of a drilling unit which shall be established by the Mining Board and shall consist of:

- (a) a minimum of ten (10) acres of surface area to an individual well drilled or deepened for the production of oil or gas from a sandstone formation, or
- (b) a minimum of twenty (20) acres of surface area to an individual well drilled or deepened for the production of oil or gas from a limestone formation;

provided, however, the Mining Board may permit the allocation of greater acreage to an individual well than that above specified whenever the Mining Board deems it to be practical or expedient so to do.

(B) DRILLING UNIT

(1) The drilling unit for a well to be drilled or deepened for the production of oil or gas from a sandstone formation shall consist of ten (10) acres of surface area lying within the

quarter-quarter-quarter section of land as established by the official United States Public Land Survey made pursuant to the provisions of an act of Congress.

(2) The drilling unit for a well to be drilled or deepened for the production of oil or gas from a limestone formation shall consist of twenty (20) acres of surface area lying within the east-west or north-south one-half of a quarter-quarter section of land as established by the official United States Public Land Survey made pursuant to the provisions of an act of Congress.

(C) SEPARATELY OWNED TRACTS WITHIN DRILLING UNIT

(1) When two or more separately owned tracts of land are embraced within a proposed drilling unit, the Mining Board shall establish the boundary lines of such drilling unit and shall require the owners of any interest in the oil and gas underlying such separately owned tracts to integrate their interests and develop said lands as a drilling unit before a permit is issued to drill or deepen a well thereon for the production of oil or gas.

(2) In the event the owners of any interest in the oil and gas underlying such separately owned tracts in a proposed drilling unit have not agreed to integrate their interests and develop said lands as a drilling unit, then such owners of either tract may file with the Mining Board an application for a permit to drill or deepen a well for the production of oil or gas. The applicant shall furnish all pertinent data and information requested or required by the Mining Board. Whereupon the Mining Board shall, after notice to all parties in interest and hearing on said application, enter an order either approving or denying said application; and, if approved, the Mining Board shall, by said order,

require the integration of such separately owned tracts in the established drilling unit and may in said order allocate a portion of the production to the owner of each tract and designate the owner or operator to develop and operate the integrated unit.

(D) TWIN WELLS

Twin wells may be drilled on a drilling unit to different sandstone or limestone formations, allocating the acreage in the drilling unit for each producing formation as above provided.

(E) WELLS WITHIN CORPORATE LIMITS

In any city, incorporated village, or town which has not enacted or does not hereafter enact an ordinance or resolution limiting the locating or spacing of wells drilled for the production of oil or gas, only one (1) permit per pool for each block shall be issued by the Mining Board. If the location of the well is on a partial block already surveyed and platted for a city, incorporated village, or town, the applicant for a permit to drill or deepen a well for the production of oil or gas shall communitize this partial block with an adjoining block before a permit will be issued. A certified copy of the official consent of the municipal authorities to drill or deepen a well located within the limits of any city, incorporated village, or town must accompany the application for permit. A certified copy of consent of the municipal authorities is also required for an amended location.

(F) EXCEPTIONS

(1) Whenever the topographical conditions of a drilling unit render it impractical, without unreasonable expense, to drill a well at a location in conformity with the spacing rules, the Mining Board may alter the location after investigation and verification of the topographical conditions.

(2) In those areas where the U. S. Government

has not made an official survey, in areas covered by the old French Surveys and Grants, in meandered lands, in government lots, and in subdivisions thereof where the acreage in quarter-quarter-quarter sections and quarter-quarter sections does not conform to the spacing and drilling requirements of the law and the rules and regulations, the Mining Board shall have the authority to establish drilling units and to grant exceptions for wells when such drilling units are approximately ten (10) acres for sandstone horizons and twenty (20) acres for limestone horizons and will not cause a greater well density than would be encountered in regular official surveys.

(3) In case of irregular sections containing more or less than 640 acres, the Mining Board shall have the authority to allow exceptions or create units other than quarter-quarter-quarter sections in sandstone horizons and other than half quarter-quarter sections in limestone horizons so as to allow approximate units of ten (10) acres in sandstone and twenty (20) acres in limestone horizons in order to absorb the entire acreage in such sections into units as aforesaid.

(4) Gas, air, water, or other liquid input wells, salt water disposal wells, and structure tests are exempt from any spacing requirements.

(5) In order that a proposed well may be located over an existing or proposed pillar of a mine property, the foregoing spacing requirements may be waived by the Mining Board when the well to be drilled or deepened for oil or gas will penetrate an active mine, the mined-out or inaccessible portion of an active mine, a temporarily abandoned mine, or the undeveloped limits of any such mine property.

(6) Each person desiring the Mining Board to grant an exception for a reason other than those specified in Paragraphs (1), (2), (3), (4), and (5) of this Section (F) shall submit with his ap-

plication for permit a statement setting forth the desired exception and the reasons or necessity therefor, and giving in detail the action the applicant has taken in such matter. The applicant shall notify, by registered mail on or before the day the application is filed with the Mining Board, the owner or manager of every oil and gas well within one-half ($\frac{1}{2}$) mile radius of the proposed well location, and proof of such notice shall accompany said application. Upon receipt, the Mining Board shall hold such application and proof of notice ten days for possible objections. In the event objection is made within such time or the Mining Board deems a hearing should be had, the Mining Board shall give notice to each owner or manager listed in the proof of notice, and to the applicant, of the date and place designated by the Mining Board for such hearing. After such hearing the Mining Board shall either issue or deny the permit.

(2) SECONDARY RECOVERY

Spacing regulations for oil wells will not be waived in areas where the applicant declares an intention to undertake a proposed secondary recovery operation, until one or more input wells are first drilled or other wells are actually converted to input wells after permits have been issued for such conversion.

(A) PATTERN FLOOD

(1) When an applicant applies for a permit to drill or deepen an oil well at a location which complies with the regular spacing requirements set out in Rule IV (1) (A), a permit shall be issued by the Mining Board.

(2) When an applicant applies for a permit to drill or deepen an oil well using the same spacing pattern as that used in an adjacent pattern flood, a permit shall be issued by the Mining Board.

(3) When an applicant applies for a permit to drill or deepen an oil well at a lesser distance to the boundary lines of his leasehold than are the existing oil wells in an adjacent pattern flood, the applicant shall notify, by registered mail, the owners or managers of oil wells in the established secondary recovery projects within one-half mile of the proposed well, stating his intentions as described in his application for a permit. A copy of the notification will be held by the Mining Board ten days after its receipt with the application for a permit. If no written objections are received by the Mining Board from the operators so notified, the permit shall be issued. If written objections are received by the Mining Board within the ten-day period, the Mining Board shall call a hearing to determine the merits of issuing such a permit. After such hearing the Mining Board shall either issue or deny the permit.

(B) OTHER FLOODS

(1) When the spacing of oil wells and/or input wells is not based on a geometric arrangement, as defined in the definition of a pattern flood, the following shall apply:

- (a) When the location of the proposed oil well requested complies with the regular spacing requirements set out in Rule IV (1) (A), a permit shall be issued by the Mining Board.
- (b) When the location of the proposed oil well requested does not comply with the regular spacing requirements set out in Rule IV (1) (A), the applicant shall notify, by registered mail, the owners or managers of oil wells within one-half mile of the proposed well, stating his intentions as described in the application for a permit. A copy of the notification will be held by the Mining Board ten days after its receipt with the application for a permit. If writ-

ten objections are received by the Mining Board within the ten-day period, the Mining Board shall call a hearing to determine the merits of issuing such a permit. If no written objections are received by the Mining Board from the operators so notified, the Mining Board shall either issue a permit or, at its discretion, call a hearing to determine the merits of issuing such a permit. If a hearing is held, the Mining Board shall subsequently either issue or deny the permit.

(C) RECORD TO BE KEPT

If any owner or manager of a leasehold adjoining a secondary recovery project files with the Mining Board a verified complaint stating the he has reasonable grounds to believe secondary recovery operations are being conducted on the offset leasehold in such manner as to violate or impair his right to recover the oil or gas underlying his leasehold premises, the Mining Board may require the owner or manager of such secondary recovery project to submit to the Mining Board his or its records and data showing the average production from said leasehold, the formation or formations subjected to such secondary recovery operations, and the daily injection volume and pressure of each input well thereon, during the period of two full calendar months preceding the filing of such complaint. If such records have not been kept by such owner or manager, the Mining Board may require that the same be kept for a specified period of time, not to exceed two full calendar months, and furnished to the Mining Board. The information or data submitted by the owner or manager of such secondary recovery project shall be confidential except that the Mining Board may exhibit the same to complainant. This rule shall not be construed to

prevent the Mining Board from taking any other action authorized by the Act which it may deem necessary in order to prevent waste.

(3) NONCONFORMING WELL TO BE PLUGGED

Any well drilled in violation of the permit issued therefor shall not be allowed to produce oil or gas, but after notice and hearing by the Mining Board the said well shall be plugged and abandoned unless an exception be granted by the Mining Board.

RULE V

FILING OF LOGS AND WELL INFORMATION

(1) RETURN OF COMPLETION CARD

A completion card will be attached to each drilling permit issued by the Mining Board. Upon completion of the well for which the permit is issued, the owner, manager, or operator of said well shall furnish the information requested thereon, and shall mail the same promptly, addressed to the Oil and Gas Division of the Department of Mines and Minerals, Springfield, Illinois.

(2) WELL LOG TO BE FILED

The Mining Board shall require any owner or manager, as defined by the Act, of any well drilled for oil or gas, to file a log of strata encountered in said well and also an electric log, if one has been made, and time log if requested, in the office of the State Geological Survey, Division of the Department of Registration and Education, Urbana, Illinois, within three (3) months after the completion of said well.

(3) CONTENTS OF WELL LOG

Such logs shall show :

(A) The name, number, location and elevation of the well in accordance with the description required by the Mining Board in the application for the permit to drill such well;

(B) The name, character, depth and the thickness of the formations passed through or encountered in the drilling of such well and the depth and thickness of each oil-, gas-, or water-bearing formation or strata encountered;

(C) The depth and thickness of coal beds and deposits of mineral materials of economic value;

(D) The results on completion, whether the well was dry or productive of oil or gas, and if productive, the initial production;

(E) If fresh water has been encountered, the approximate capacity;

(F) The elevation above mean sea level of the point from which the depth measurements are made, stating its height above ground level at the well.

The correctness of the log shall be subscribed and sworn to before a notary public, that the statements contained therein are true.

When requested in writing by the owner, any or all information contained in any such log hereby required will be kept confidential until released in writing by the owner thereof or his legal representatives after its lodgment in the office of the State Geological Survey; however, no such information shall be kept confidential for more than one (1) year from the date of issue of the drilling permit for the particular well.

(4) COLLECTION OF DRILL CUTTINGS

As provided by the Act, the Mining Board shall notify the person or persons to whom any permit is issued, at the time of the issuance thereof, either to collect or not to collect for the State Geological Survey, drill cuttings representing each run drilled in cable tool wells and each ten (10) feet of distance drilled and drilling time in rotary wells. When so notified by the Mining Board to collect such cuttings hereby required, the permittee shall obtain containers for such cuttings, and information as to the approved method of collecting drill cuttings from the State Geological Survey, Urbana, Illinois.

RULE VI

IDENTIFICATION OF LEASES AND TRANSFER OF MANAGEMENT

(1) LEASE AND WELL IDENTIFICATION

To identify all producing leases the owner or manager thereof shall cause a sign to be placed where the principal lease road enters the lease and such sign shall show the name of the lease and the owner or manager thereof and the section, township and range.

A legible numeral shall be attached or painted on pumping unit or jack of each well or a legible sign placed near the well to identify the well number.

(2) TRANSFER OF MANAGEMENT

The Mining Board shall be notified within ten (10) days after the transfer of each change of management of a producing oil and gas leasehold estate or fee production.

RULE VII

WASTE PROHIBITED

(1) AVOIDABLE WASTE OF GAS

In drilling any well, if a gas sand or stratum is penetrated, the hole must not be left open so that an avoidable escape of gas, which in the opinion of the Mining Board constitutes waste, will occur during further drilling in or through such stratum or during temporary abandonment of the well. The Mining Board may require mud-laden fluid to be applied, or the gas stratum cased off, or any suitable method adopted which will arrest such escape of gas.

Gas produced in connection with the production of oil shall be burned in flares where there is no market at the well for escaping gas. The operators of casinghead gas plants operated for the extraction of liquid hydrocarbons from the gas shall burn the residue gas in flares when no market exists at such plant for the residue gas or when the gas is not returned to an oil pool or field for pressure maintenance or repressuring of the oil pool or field.

(2) ESCAPE OF UNBURNED GAS PROHIBITED

The escape of unburned gas from any well into the air or atmosphere is hereby prohibited. All such surplus gas, not otherwise utilized, shall be burned at a safe distance from any well, storage tank or building.

(3) BURN-OFF PITS

To prevent fire hazards and waste from waste oil, the same shall be collected in burn-off pits which shall be located a safe distance from oil storage tanks, buildings, or other structures, and shall be

burned as often as necessary to prevent overflowing. Such pits shall be constructed to prevent the escape of oil therefrom, and shall have a continuous wall completely surrounding the pit of sufficient height above the surface to prevent surface water from running into the pit. Earthen pits will be permitted at locations where the soil is heavy and tight, but shall be prohibited in locations where the soil is porous and closely underlaid by either gravel or sand strata.

(4) LEASE TANK RESERVOIRS

When it is deemed necessary by the Mining Board to protect life, health or property, the Mining Board may require any lease or oil storage tanks to be surrounded by an earthen dike which shall have a capacity of one and one-half ($1\frac{1}{2}$) times the capacity of the tank or tanks it surrounds, which dike shall be continually maintained; and the reservoir within shall be kept free from vegetation, water or oil.

(5) FIRE HAZARDS AT WELL LOCATIONS

All well and tank locations shall be kept free of dead grass, brush, weeds and other inflammable material and so maintained at all times.

RULE VIII

PROTECTION OF WORKABLE COAL BEDS

To prevent waste, the Mining Board shall protect workable coal beds in the drilling, casing, and plugging of wells drilled for oil or gas, or for any other purpose in connection therewith.

(1) WORKABLE COAL BEDS DEFINED

All coal beds or seams thirty (30) inches or more in thickness less than one thousand (1000) feet below the surface shall be determined as workable. When any well drilled for oil or gas, or to be used in connection therewith, penetrates such coal seams or ceases to be used for the purpose drilled, such coal seams shall be protected as herein provided.

(2) MINING BOARD MAY DETERMINE PRESENCE OF COAL SEAMS

The Mining Board shall have authority to determine when workable coal beds or seams are present, by geological data obtained from the State Geological Survey, or other relevant information which would indicate the presence of workable coal beds or seams underlying the well site.

When the presence of any coal strata or seam is disputed by the owner or manager of a well, and such condition is contrary to the geological information possessed by the Mining Board, such contention of the owner or manager shall be supported by an affidavit on a form prescribed and furnished by the Mining Board, which affidavit shall be executed by a geologist or other person qualified and competent to determine the presence of such disputed coal strata or seam. When such affidavit has been filed with the Mining Board, it shall have au-

thority to determine the issue, after obtaining all further geological information possible, or if the Mining Board deems expedient, it may on its own motion, call a hearing to be held as herein provided to determine such facts.

(3) WELL LOCATIONS PROHIBITED

No well for oil or gas shall be drilled within two hundred fifty (250) feet from any opening of an active coal mine used as a means of ingress or egress for the persons employed in such mine, or which is used as an air shaft, except by mutual agreement between the person owning or operating the mine and the oil or gas operator.

(4) NOTICE TO MINING BOARD

At least twenty-four (24) hours prior to reaching the depth of mine workings or the undeveloped limits of the mine, the person in charge of drilling operations shall notify the Mining Board or Mining Board Representative and the mine representative of the time when such well shall reach such point, in order that the Mining Board may have a Mining Board Representative present on the well site at such time.

(5) CASING AND PROTECTIVE WORK

Whenever the Rules and Regulations require a mine string to be set in a mine area, the casing used inside the mine string shall be new.

Any protective work required in a mine area shall be under the supervision of the Mining Board.

(6) OPERATIONAL REQUIREMENTS OVER ACTIVE MINE

(A) MINING BOARD TO DETERMINE SAFETY FACTORS

No well shall be drilled into any coal mine or mine workings in any active mine until the Min-

ing Board Representative is present and determines that the mine or mine workings are safe.

Until the Mining Board Representative is satisfied that adequate protection has been provided so that no hazard exists, drilling operations shall be suspended. After any protective or corrective work, required by the Mining Board Representative, has been satisfactorily completed by the well owner, manager or his representative, drilling operations may be ordered resumed; but if in the opinion of the Mining Board Representative it is impossible to adequately protect the mine or mine workings, he shall order the permit revoked and the well plugged in the manner hereinafter provided.

(B) DRILLING METHODS AND PROCEDURE

(1) GENERAL

All wells drilled through an active coal mine or through an abandoned portion of an active mine shall be located if possible in order to pass through an adequate pillar.

(2) MINE PROTECTIVE STRING

Whether drilled through a pillar or not, a mine string of casing of good quality shall be set to protect the mine. The mine string shall be treated with a heavy impervious coating of asphalt, plastic, or other acid-resisting material from fifty (50) feet above the mine roof to a point fifty (50) feet below the mine floor or base of coal seam.

The outside diameter of the mine string shall be at least four (4) inches smaller than the diameter of the well bore and equipped with centralizers or similar mechanical device above and below the coal seam. The mine string shall be set at an approximate depth of fifty

(50) feet below the base of the coal seam and cemented from the casing seat to the surface.

If the mine string misses a pillar and is set through an open room of an active mine or the abandoned portion of an active mine, an umbrella, basket, or packer must be used on the mine string to set above the mine roof and the mine string shall be cemented from the casing seat to the mine floor and also cemented from the umbrella, basket, or packer set above the mine roof to the surface.

(3) CEMENTING OIL STRING

The outside diameter of the oil string shall be at least three (3) inches smaller than the inside diameter of the mine string when set through a pillar, and the outside diameter of the oil string shall be at least four (4) inches smaller than the mine string when set through an open room and equipped with centralizers, or similar mechanical devices, immediately above and below the coal seam. The centralizers shall be so spaced as to be within the mine string of casing.

The oil string shall be surrounded with cement from the casing shoe to the surface, or the oil string may be cemented using multiple-stage cementing tools, as hereinafter provided.

When the multiple-stage cementing method is used, at least one hundred (100) sacks of cement shall be placed around the casing shoe and the multiple-stage cementing tool placed one hundred (100) feet below the floor of the mine and cemented from that point to the surface.

In areas where thief zones or high permeability horizons occur below the level of the mine, the Mining Board may require multiple-stage cementing tools to be used in the cementing of the oil string in order to assure protection for the mine.

(4) TEMPERATURE SURVEY REQUIRED

When drilling through mined out areas which are not accessible, and, if, in the opinion of the Mining Board representative, it is necessary, a self-registering thermometer shall be lowered to the mined out level, and if the recorded temperature shows the possibility of fire at or near the position of the hole, the drilling permit shall be revoked and the hole plugged, as herein required.

(C) SHOOTING WELLS OVER ACTIVE MINES OR WORKED OUT PORTIONS OF ACTIVE MINES

(1) SHOT LESS THAN FIFTY (50) QUARTS

When any well is located over or penetrates an active mine or worked out portions of an active mine, before shooting the oil-bearing formation, the well owner or manager shall proceed as follows:

- (a) Notify the Mining Board or Mining Board Representative at least twenty-four (24) hours in advance of the time the shot is to be fired.
- (b) Notify the mining company at least twenty-four (24) hours in advance of the time the shot is to be fired.
- (c) Tamp the shot with a minimum of sixty (60) feet of tamp, at least the top thirty (30) feet of which shall be of impervious material, being sure that the top of the tamp extends to a place in the hole opposite solid rock formation. Fill the hole to the top with fluid of consistent viscosity and specific gravity.

(2) SHOT EXCEEDING FIFTY (50) QUARTS

When the charge exceeds fifty (50) quarts of nitroglycerin :

- (a) Apply to the Mining Board for permission to shoot, indicating the size of charge to be used.
- (b) In the absence of written authority from the coal company for the specific shot, the Mining Board shall :
 - (1) Immediately upon receipt of application notify the coal company indicating location of well and size of charge to be used.
 - (2) If no objection is filed by the coal company within twenty-four (24) hours, the Mining Board shall give permission to fire the shot.
 - (3) If coal company objects, the Mining Board shall, within twenty-four (24) hours of receipt of said objection set matter for hearing and determination in county where well is located.
- (c) Extend the tamp with impervious material ten (10) feet beyond the minimum tamp of sixty (60) feet for each additional ten (10) quarts of charge used, being sure that the top of the tamp extends to a place in the hole opposite solid rock formation. Fill the hole to the top with fluid of consistent viscosity and specific gravity.

RULE IX

DISPOSAL OF SALT WATER OR OTHER LIQUIDS TO PREVENT WASTE AS DEFINED IN THE ACT

To prevent waste, no person shall dispose of salt water or other waste liquids except in the following manner. Any other method of disposal is hereby prohibited.

(1) MINING BOARD SUPERVISION

When salt water or other waste liquid is not properly impounded or is being improperly disposed of, the Mining Board shall order such improper condition corrected when it is determined that the disposal method used pollutes fresh water supplies, creates a hazard, or is injurious to life, health or property.

(2) DISPOSAL IN UNDERGROUND STRATUM

Salt water or other waste liquids may be disposed of into an underground formation or strata after a permit to do so has been procured from the Mining Board as hereinbefore provided. The Mining Board shall have authority to designate and approve the stratum into which such liquids shall be disposed of, also the protective work necessary to confine such liquids to the intended stratum. All such work shall be executed under the supervision of a Mining Board Representative and shall conform to the requirements imposed in granting the permit therefor.

(3) DISPOSAL IN EARTHEN PITS

Salt water or other waste liquids may also be disposed of by evaporation when impounded in

excavated earthen pits, which may only be used for such purpose when the pit is underlaid by tight soil such as heavy clay or hardpan.

Where the soil under the pit is porous and closely underlaid by a gravel or sand stratum, impounding of salt water or other waste liquids in such earthen pits is hereby prohibited. When such liquids are impounded in an earthen pit, it shall be so constructed and maintained as to prevent escape of such liquids therefrom.

The Mining Board shall have authority to condemn any pit which does not properly impound such liquids and order the disposal of such liquids into an underground formation, as herein provided.

The level of salt water or other waste liquids in earthen pits shall at no time be permitted to rise above the lowest point of the ground surface level. All pits shall have a continuous embankment surrounding them sufficiently above the level of the surface to prevent surface water from running into the pit. Such embankment shall not be used to impound salt water or other waste liquids.

At no time shall salt water or other waste liquids impounded in earthen pits be allowed to escape over adjacent lands or into streams.

(4) PIPES TO BE KEPT IN REPAIR

A pipe conveying such liquids to any salt water disposal well or pit shall be kept in good repair and free from leaks, and no outlet valve will be permitted in such pipe between the place of origin and discharge.

RULE X

VACUUM

The use of vacuum pumps or other devices for creating a vacuum on any oil- or gas-producing stratum is hereby prohibited until the owner or manager has complied with the following requirements:

(1) APPLICATION FOR USE OF VACUUM

On or before the date of filing an application by letter for the use of vacuum on any leasehold, the applicant shall notify, by registered mail, all other persons owning or managing producing oil or gas wells located within one-half ($\frac{1}{2}$) mile radius of the well or wells where the use of vacuum is proposed, and shall set out in the notice the proposed strata or formation and exact location of the well or wells to be affected by the application or use of such vacuum. The applicant shall submit proof of such notice with the application, giving the names and addresses of all well owners or managers within such one-half ($\frac{1}{2}$) mile radius.

(2) NOTICE AND HEARING ON APPLICATION

On receipt of such application and proof of notice, the Mining Board shall hold the same for ten (10) days pending the filing of objections, and if none is received at the end of such period, the application may be approved by the Mining Board.

In event objection is made by the owner or manager of any well or wells producing from the same formation, which are located within one-half ($\frac{1}{2}$) mile radius of the proposed vacuum installation, and the Mining Board deems a hearing shall be had,

notice shall be given to each objector and the applicant, of the time and place designated by the Mining Board for such hearing.

(3) MINING BOARD AUTHORITY

The Mining Board shall have authority after notice and hearing to prohibit vacuum or to deny or revoke permission for the use of vacuum when, in its judgment, there is danger of underground waste.

The Mining Board shall have authority to grant permission when it believes a further recovery of oil can be obtained by use of vacuum without danger of underground waste.

RULE XI

PLUGGING OF WELLS

As provided by the Act, as amended, and to prevent waste as therein defined, any owner or manager who owns, has drilled, or has acquired a nonproductive well drilled for oil or gas, or for any other purpose in connection with the exploration and production of the same, including unused input wells, salt water disposal wells, and geological or structure test holes drilled below the glacial drift, shall be required by the Mining Board to securely plug and abandon such well in the manner herein provided, except when an extension of time has been granted by the Mining Board in writing.

(1) MINING BOARD SUPERVISION

The plugging and abandoning of wells and the consequent pulling of casing or the partial plugging back operations from one formation to another shall be under the supervision of the Mining Board and the Mining Board Representative. The Mining Board shall have authority to prohibit the plugging of a well when the equipment used is not adequate or is insufficient, in the opinion of the Mining Board, to perform the abandonment according to the Rules and Regulations.

When the casing in any well is not the property of the person owning the well, the owner of such casing is prohibited from pulling the same until he has notified a Mining Board Representative, and then shall securely plug such well under the supervision of the Mining Board in the same manner as the owner of the well is herein required.

(2) WHEN WELL TO BE PLUGGED

The owner or manager shall not permit any well drilled for oil, gas, salt water disposal or any other

purpose in connection with the production of oil and gas, to remain unplugged after such well is no longer used for the purpose for which it was drilled or converted.

(3) PRIOR NOTICE TO MINING BOARD REPRESENTATIVE

When the owner or manager of any inactive, nonproductive or nonoperative well desires to plug such well or partially plug back to a different formation or to withdraw casing from such well, he shall notify a Mining Board Representative and, if in an active coal mine area, notify the owner or operator of such coal mine at least eight (8) hours in advance of the time he expects to begin plugging or pulling casing. The commencement of such operations, including shooting off casing, is prohibited until an authorized Mining Board Representative is present.

(4) OWNER TO FURNISH WELL LOG

Upon arrival of the Mining Board Representative at the site of the well to be plugged or partially plugged back to a different formation, the owner or manager of the well, or his representative, shall make available to the Mining Board Representative a complete log of the well, which shall show the character and depth of all formations encountered in the drilling of such well, particularly showing the depth and thickness of all oil-bearing strata, gas-bearing strata, water-bearing strata, and workable coal beds.

When no log is furnished by the owner, the Mining Board may require the well to be filled with cement from bottom to top, or the Mining Board may require it to be plugged in accordance with the knowledge of logs of nearby wells.

(5) PLUGGING METHODS AND PROCEDURES

(A) GENERALLY

A cement plug to protect the producing formation must be placed opposite the producing formation and extend to a point twenty (20) feet above the top of said producing formation. In cases where the history of the well shows that heavy or repeated shots in a sandstone formation, or heavy or repeated acidization in a limestone formation, render it probable that a large cavity exists within the producing formation, it is permissible to fill such cavity with sand, crushed rock, or other suitable material approved by the Mining Board in order to provide an anchor on which to place a cement plug not less than twenty (20) feet in length above the top of such producing formation. A cement plug is to be placed below the casing seat of the oil string and extend to a point twenty (20) feet above said seat and if there is a liner that is not to be withdrawn, said cement plug shall be placed at the top of the liner and extend to a point twenty (20) feet above.

No sand, gravel, or other foreign substance shall be mixed in the slurry; however, the use of an admixture of special mud materials may be used, subject to the approval of the Mining Board Representative.

(B) PROTECTION OF COAL SEAMS

Each coal seam of thirty (30) inches or more of thickness and lying above the depth of one thousand (1000) feet shall be protected by a cement plug extending one hundred (100) feet above said coal seam to a distance of fifty (50) feet below the same or to the bottom of the hole, whichever is less.

In wells penetrating an active mine or the worked out area of a mine or the undeveloped

limits of a mine property having workable coal seam or seams, a substantial support shall be provided for each cement plug required for coal seam protection. The supporting plug shall consist of wood or other suitable material having adequate strength and shall be set and tested to determine that settlement or a movement of the cement plug will not take place during the period required for the setting of the cement.

(C) SHOOTING CASING IN ROTARY HOLE

In wells originally drilled by rotary tools, before any casing is shot off or otherwise parted at a point above the casing shoe, the hole must be filled with properly prepared mud of not less than thirty-eight (38) viscosity, or other suitable material, to the point of parting. After the casing is parted and withdrawn, the hole must be completely filled with mud.

A cement plug twenty-five (25) feet in length shall be placed ten (10) feet below the base of the surface casing and extend to a point at least fifteen (15) feet above the base of surface casing. The remainder of the hole shall be filled with mud.

The surface casing shall be cut off three (3) feet below the surface of the ground and a mushroomed cement cap of approximately one (1) foot in thickness shall be placed over the casing so that the top of the mushroomed cap is at least two (2) feet below the surface of the ground. The hole shall then be filled with dirt and the surface of the ground leveled.

In the event that surface casing has not been used, a cement plug shall be placed in the hole three (3) feet below the surface to a depth of twenty-five (25) feet. A mushroomed cement cap of approximately one (1) foot in thickness shall be placed over the top of the hole so that the top of the mushroomed cap is at least two

(2) feet below the surface of the ground. The hole shall then be filled with dirt and the surface of the ground leveled.

These provisions shall not exclude the placing of cement in the producing formation or opposite workable coal seams as herein provided. The surface casing of such wells shall not be withdrawn.

(D) IN WELLS DRILLED WITH CABLE TOOLS

In wells drilled and completed by cable tools, the producing formations and all workable coal seams must be protected as heretofore provided. As each string of casing is picked up or parted, it shall be raised one joint, and then approximately one-fourth ($\frac{1}{4}$) yard of native clay or mud dropped down the casing and allowed to settle below the base of casing.

When pulling casing from wells where caving occurs which partially fills the well bore the remainder of the hole shall be plugged as herein provided.

In such cases and also in wells where formation or walls of the hole do not cave, the hole shall be filled to within twenty-five (25) feet of the surface with native clay or Bentonitic materials.

In areas where in the drilling of the well it was necessary to drive pipe for the outside string in order to prevent caving or to protect fresh water horizons or formations, this drive pipe shall be left in place and not removed.

Where drive pipe is used it shall be cut off three (3) feet below the surface of the ground and a twenty-five (25) foot cement plug run inside the drive pipe and anchored thereto.

Where surface casing has been pulled, a cement plug shall be placed at a point three (3) feet

below the surface to a depth of twenty-five (25) feet.

In either event where drive pipe is used or the surface casing has been pulled, a mushroomed cement cap of approximately one (1) foot in thickness shall be placed at a point three (3) feet below the surface of the ground and allowed to mushroom until the diameter of the cement plug is at least three (3) times the diameter of the hole drilled, then the hole shall be filled with dirt and the surface of the ground leveled.

(E) WHEN CASING LEFT IN HOLE

In wells where casing is not removed when wells are abandoned, the plugging operation shall be done in the same manner as provided for abandoning wells where casing is withdrawn.

(F) FOREIGN MATERIAL PROHIBITED

No person shall knowingly or purposely place or lodge any foreign material or substance in an unplugged well which will either fill or bridge such hole.

When foreign material has been knowingly or purposely placed in the hole the Mining Board may require such material to be removed before plugging operations are commenced.

(G) PLUGGING BRIDGED HOLE

When in normal production or drilling operations the hole becomes plugged or obstructed because of loss of drilling tools or producing equipment which it would be impractical or impossible to remove, special consideration shall be allowed and the well shall be plugged as nearly to the aforementioned requirements as existing circumstances will permit. The exact method of plugging and the equipment lost shall be shown on the plugging affidavit.

(6) CONVERTING TO WATER WELL

When the fee owner of the surface desires to utilize a well to be abandoned for fresh water purposes, such well need not be filled above the fresh water strata or bed, but a twenty-five-foot (25) cement plug shall be placed immediately below such fresh water bed, provided, however, written authority for such use is secured from the fee owner who shall also sign and file with the Mining Board a release form furnished by the Mining Board, thereby releasing the owner, manager, or operator from all responsibility and statutory or other requirements for the further plugging of said well.

(7) RESTORATION OF SURFACE

The owner or manager shall, as soon as weather or ground conditions permit, upon the final abandonment and completion of the plugging of any well, clear the area around the location of all refuse material, burn waste oil, drain and fill all excavations, remove concrete bases, machinery and materials, and level the surface to leave the site as nearly as possible in the condition encountered when operations were commenced.

When the fee owner of the surface desires to utilize the pits dug in connection therewith, the fee owner shall sign and file with the Mining Board a release form furnished by the Mining Board, thereby releasing the owner, manager, or operator from all responsibility and statutory or other requirements for the further filling of the pits.

(8) EXTENSION OF TIME TO PLUG WELL

Upon written application for an extension of time to defer the plugging and abandonment of any unplugged well, the Mining Board, at its discretion, may grant such extension for a reasonable period of time when good cause can be shown by the person making the application, and provid-

ing the casing is all left in the well and is in sound condition. If water was encountered which will flood oil-bearing formations exposed in the open hole, the water-bearing formation below the casing seat shall be plugged off with cement. The top of the casing shall be securely capped.

If no bond covering such well is then in effect, a bond shall be given before the extension is granted, and such bond shall remain in full force and effect until the well is plugged and the other requirements of final abandonment have been completed.

At the expiration of any extension granted, the well shall be plugged and abandoned if a further extension is denied by the Mining Board.

(9) FILING PLUGGING AFFIDAVIT

Immediately after the plugging of any well has been accomplished, an affidavit shall be executed in duplicate and jointly signed by the owner or manager or his representative and the Mining Board Representative who supervised the plugging operation. The plugging affidavit, in duplicate, on a form furnished by the Mining Board, shall be filed in the office of the Oil and Gas Division of the Department of Mines and Minerals at Springfield, Illinois.

RULE XII

VALIDITY OF RULES AND REGULATIONS

In case any word, phrase, sentence, or other portion of these Rules and Regulations shall hereafter be declared invalid, such invalidity shall not affect the remaining portions and parts of the Rules and Regulations adopted or promulgated by the Department.

All former Rules and Regulations heretofore adopted by the Department are replaced and superseded by these Rules and Regulations upon their adoption by the Mining Board.

MINING BOARD FORMS

Form OG 10-A Rev.—Application for Authorization to Drill, Deepen or Convert a Well.

Form OG-2—Revised—Application for Salt Water Disposal Well.

Form OG-3 Revised—Application for Gas or Water Input Well For Secondary Recovery.

Surety Bond Form—For Individual Well or Blanket Bond.

Cash Bond Form—For Individual Well or Blanket Bond.

Suggested Form—Power of Attorney.

Post Card—Notice of Well Completion.

Form of—Release signed by landowner releasing operator of responsibility for filling pits.

Form of—Release signed by landowner releasing operator where top portion of well bore left unplugged for use as fresh water well.

Form for—Request to Cancel Bond.

Form of—Statement of Ownership.

Application Card—For Permit to Drill Water Well.

Not Distributed to Public:

Form O.G. 6—Well Plugging Affidavit.

Form for—Notice of Violation.

Form for—Cancellation of Bond.



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STATE OF ILLINOIS
WILLIAM G. STRATTON, Governor



AN ACT IN RELATION TO OIL,
GAS, COAL AND OTHER
SURFACE AND UNDERGROUND
RESOURCES

AND
RULES AND REGULATIONS

DEPARTMENT OF MINES & MINERALS
B. H. SCHULL, Director

DIVISION OF OIL AND GAS
W. E. WAYLAND, Oil Conservation Supervisor

(Printed by Authority of the State of Illinois)

Revised Edition

1960

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UNIVERSITY OF ILLINOIS

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WILLIAM G. STRATTON, Governor



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I N D E X

	Page
OIL, GAS and COAL ACT.....	2-21
RULES and REGULATIONS.....	22-78

RULE I

GENERAL PROVISIONS	23-29
Definitions	23-25
Prevention of Waste	25-26
Jurisdiction	26
Enforcement of Act	26
Delegation of Authority	26
Right of Inspection.....	26-27
Right of Access	27
Sworn Statements	27
Additional Reports	27-28
When Rules and Regulations Become Effective.....	28
Notice of Rules and Regulations.....	28
Forms	28
Hearings—Notice	28-29
Public Hearings	28-29
Publisher's Certificate	29
Other Hearings	29

RULE II

PERMITS	30-39
Application to be Filed.....	30
Copy of Evidence of Ownership to be Attached.....	30-31
When Permit to be Issued.....	31
Permit Issued to Owner or Manager.....	31
Permit Posted at Well Site.....	31
Authority to Deny Permit.....	31
Permits Not Transferable	31
Application for Permit to Drill or Deepen Well.....	32-35
Requirements	32
Drill Out or Deepen Plugged Well.....	32
Contents of Application	32-33
Fee	33
Expiration of Permit	33-34
Change of Location	34
Directional Drilling	34-35
Application for Permit for Geological or Structural Test Hole	35
Permits for Salt Water Disposal or for Gas, Air, Water, or Other Liquid Input Wells.....	35-37
Requirements for Permit	35-36
Notice to Other Owners or Managers.....	36
Authority to Deny Permit	37
Authority to Suspend Operations.....	37
Fee	37
Permit Requirements in Mine Areas.....	37-39
For Well Penetrating Mine.....	37-38
Agreement With Mine Owner.....	38
Requirements in Absence of Agreement.....	38
Requirements in Inactive Mining Areas.....	38-39
Notice to Mine Owner.....	39
Maps Available at Well Site.....	39

RULE III

	Page
BONDS	40-42
When Bonds Required—Amount.....	40
Kind of Bond—Execution	40-41
Surety or Cash Bond.....	40
Personal Bond	40-41
Execution of Bond	41
Bond of Manager	41
Bond Form—Approval	41
Surety May Cancel Bond.....	41-42
Requirements Before Bond May Be Canceled.....	42
Mining Board May Cancel Bond.....	42
Casing Puller's Bond	42

RULE IV

SPACING OF WELLS	43-53
General Spacing Rules	43-50
Wells Drilled or Deepened to a Pool the Top of which is less than 4,000 feet beneath the surface..	43-44
Wells Drilled or Deepened to a Pool the Top of which is 4,000 feet or more beneath the surface..	44-47
Separately Owned Tracts Within Drilling Unit.....	47-48
Twin Wells	48
Wells Within Corporate Limits	48-49
Exceptions	49-50
Secondary Recovery	51-53
Pattern Flood	51
Other Floods	52
Record to be Kept	52-53
Nonconforming Well to be Plugged.....	53

RULE V

FILING OF LOGS AND WELL INFORMATION.....	54-55
Return of Completion Card	54
Well Log to be Filed.....	54
Contents of Well Log	54-55
Collection of Drill Cuttings.....	55

RULE VI

IDENTIFICATION OF LEASES AND TRANSFER OF MANAGEMENT	56
Lease and Well Identification.....	56
Transfer of Management	56

RULE VII

WASTE PROHIBITED	57-58
Avoidable Waste of Gas.....	57
Escape of Unburned Gas Prohibited.....	57
Burn-off Pits	57-58
Lease Tank Reservoirs	58
Fire Hazards at Well Locations.....	58

RULE VIII

PROTECTION OF WORKABLE COAL BEDS.....	59-64
Workable Coal Beds Defined	59
Mining Board May Determine Presence of Coal Seams.....	59-60
Well Locations Prohibited	60
Notice to Mining Board	60

	Page
Casing and Protective Work	60
Operational Requirements Over Active Mine.....	60-64
Mining Board to Determine Safety Factors.....	60-61
Drilling Methods and Procedure.....	61-63
General	61
Mine Protective String	61-62
Cementing Oil String	62
Temperature Survey Required	63
Shooting Wells Over Active Mines or Worked Out	
Portions of Active Mines	63-64
Shot Less Than Fifty Quarts.....	63
Shot Exceeding Fifty Quarts.....	64

RULE IX

DISPOSAL OF SALT WATER OR OTHER LIQUIDS	
TO PREVENT WASTE AS DEFINED IN THE ACT..	65-66
Mining Board Supervision.....	65
Disposal in Underground Stratum.....	65
Disposal in Earthen Pits	65-66
Pipes to be Kept in Repair.....	66

RULE X

VACUUM	67-68
Application for Use of Vacuum.....	67
Notice and Hearing on Application.....	67-68
Mining Board Authority.....	68

RULE XI

PLUGGING OF WELLS	69-76
Mining Board Supervision.....	69
When Well to be Plugged.....	69-70
Prior Notice to Mining Board Representative.....	70
Owner to Furnish Well Log.....	70
Plugging Methods and Procedures.....	71-74
Generally	71
Protection of Coal Seams.....	71-72
Shooting Casing in Rotary Hole.....	72-73
In Wells Drilled with Cable Tools.....	73-74
When Casing Left in Hole.....	74
Foreign Material Prohibited	74
Plugging Bridged Hole	74
Converting to Water Well	75
Restoration of Surface	75
Extension of Time to Plug Well.....	75-76
Filing Plugging Affidavit	76

RULE XII

VALIDITY OF RULES AND REGULATIONS.....	77
MINING BOARD FORMS.....	78

“An Act in relation to oil, gas, coal and other surface and underground resources.”

BE IT ENACTED BY THE PEOPLE OF THE STATE OF ILLINOIS, REPRESENTED IN THE GENERAL ASSEMBLY:

Sec. 1. Unless the context otherwise requires, the words defined in this Section have the following meanings as used in this Act.

“Person” means any natural person, corporation, association, partnership, receiver, trustee, guardian, executor, administrator, fiduciary or representative of any kind.

“Oil” means natural crude oil or petroleum and other hydrocarbons, regardless of gravity, which are produced at the well in liquid form by ordinary production methods or by the use of an oil and gas separator and which are not the result of condensation of gas after it leaves the underground reservoir.

“Gas” means all natural gas, including casing-head gas, and all other natural hydrocarbons not defined above as oil.

“Pool” means a natural, underground reservoir containing, in whole or in part, a natural accumulation of oil or gas, or both. Each productive zone or stratum of a general structure, which is completely separated from any other zone or stratum in the structure, is deemed a separate “pool” as used herein.

“Field” means the same general surface area which is underlaid or appears to be underlaid by one or more pools.

“Owner” means the person who has the right to drill into and produce from any pool, and to appropriate the production either for himself or for himself and another, or others.

“Manager” means the operator, whether the owner or not, of a well or wells drilled for oil or gas, or both.

“Department” means the Department of Mines and Minerals. “Director” means the Director of the Department of Mines and Minerals.

“Mining Board” means the State Mining Board in the Department of Mines and Minerals.

“Waste” means “physical waste” as that term is generally understood in the oil and gas industry; and further includes:

(1) the locating, drilling and producing of any oil or gas well or wells drilled contrary to the valid order, rules and regulations adopted by the Mining Board under the provisions of this Act.

(2) permitting the migration of oil, gas, or water from the stratum in which it is found, into other strata, thereby ultimately resulting in the loss of recoverable oil, gas, or both;

(3) the drowning with water of any stratum or part thereof capable of producing oil or gas, except for secondary recovery purposes;

(4) the unreasonable damage to underground, fresh or mineral water supply, workable coal seams, or other mineral deposits in the operations for the discovery, development, production, or handling of oil and gas;

(5) the unnecessary or excessive surface loss or destruction of oil or gas resulting from evaporation, seepage, leakage or fire, especially such loss or destruction incident to or resulting from the escape of gas into the open air, provided, however, it shall not be unlawful for the operator or owner of any well producing both oil and gas to burn such gas in flares when such gas is, pursuant to the other provisions of this Act, lawfully produced, and where there is no market at the well for such escaping gas; and where the same is used for the extraction of casinghead gas, it shall not be unlawful for the operator of the plant after the process of extraction is completed, to burn such

residue in flares when there is no market at such plant for such residue gas;

(6) permitting unnecessary fire hazards;

(7) permitting unnecessary damage to or destruction of the surface, soil, animal, fish or aquatic life or property from oil or gas operations.

“Drilling Unit” means the surface area allocated by an order or regulation of the Mining Board to the drilling of a single well for the production of oil or gas from an individual pool.

Sec. 1.1. Waste as defined by this Act is prohibited.

Sec. 1.2. The Oil and Gas Board, in the Department of Mines and Minerals, shall be subject to call of the Mining Board for advice and consultation concerning:

1. The interpretation of rules, regulations, and laws affecting the conservation of oil and gas.

2. The promulgation of new rules and regulations pertaining to the conservation of oil and gas.

3. Technical information and operations concerning the improvement of methods, conditions, and equipment for the production of oil and gas.

4. The proper drilling, casing and plugging of oil wells.

5. The issuing of proper permits to drill oil and gas wells.

6. Any and all other subjects about which the Mining Board should seek information in relation to the oil and gas industry, except in situations involving drilling or operations through veins or seams of mineable coal, in which situations the entire authority and discretion shall remain in the Mining Board.

Sec. 2. The provisions of this Act shall not apply to mine or quarry drill or blast holes, nor to seismograph test holes, or to holes drilled to explore strippable coal.

The provisions of this Act shall not apply to geological or structure test holes, except that notification of intent to drill shall be filed with the Min-

ing Board, and permit shall be obtained as provided in clause (2) of Section 6 of this Act and except that all geological or structure test holes drilled below the glacial drift shall be plugged under the supervision of the Mining Board.

All wells drilled for water, except those which penetrate the subsurface below the glacial drift, are excepted from the provisions of this Act.

Sec. 3. The Mining Board shall be charged with the duty of enforcing this Act and all rules, regulations and orders promulgated in pursuance of this Act.

The Mining Board may authorize, in writing, any employee of the Department, qualified by training and experience, to perform in the Board's stead the powers and duties set forth in this Act, which do not require the exercise of administrative discretion.

Sec. 4. The Mining Board shall have jurisdiction and authority over all persons and property necessary to enforce effectively the provisions of this Act.

Sec. 5. The Mining Board shall have the authority and it shall be its duty, to employ all necessary personnel to carry out the provisions of this Act; to fix their compensation; to designate their headquarters and to define their duties. The aforesaid personnel shall be subject to the provisions of the "Personnel Code," enacted by the 69th General Assembly.

Sec. 6. The Mining Board shall have the authority to call hearings, to make, after hearing and notice as hereinafter provided, such reasonable rules, regulations, and orders as may be necessary from time to time in the proper administration and enforcement of this Act, including Rules, Regulations and Orders for the following purposes: (1) to require the drilling, casing and plugging of wells to be done in such a manner as to prevent the migration of oil or gas from one stratum to another; to prevent the intrusion of water into oil, gas or coal strata; to prevent the pollution of fresh water supplies by

oil, gas or salt water, (2) to require the person desiring or proposing to drill any well in search of oil or gas, before commencing the drilling of any such well, to make application to the Mining Board upon such form as the Mining Board may prescribe and to comply with the following provisions, viz: The drilling of any well is hereby prohibited until such application is made and the applicant is entitled to a permit therefor as provided by this Act; each application for a well permit shall indicate the exact location of such well, the name and address of the manager, operator, contractor, driller, or any other person responsible for the conduct of drilling operations, the proposed depth of the well, and such other relevant information not involving ownership as the Mining Board may deem necessary or convenient to effectuate the purposes of this Act; each applicant previous to drilling for oil or gas or any other purpose in connection therewith, and each manager or operator who has acquired or may hereafter acquire any well drilled for these purposes which has not theretofore been plugged and abandoned in accordance with the laws, rules, regulations and orders of the Mining Board, shall execute and file with the Mining Board a bond of \$1,000.00 for each of such wells, or in lieu thereof, a blanket bond in the sum of \$2,500.00 for all wells, provided that, nothing herein shall be construed to require more than one bond for such well at any one time, although successive bonds may be required until the well is abandoned and plugged; and each of such bonds shall be approved by the Mining Board on a form to be prescribed by the Mining Board, and shall provide for the compliance of plugging such well, or wells, the filling of all excavations, the removal of all concrete bases, discarded machinery and material, and restoring the surface as nearly as possible to its former condition before such well, or wells, was drilled; and such bond shall be renewed and be continued in effect until the aforesaid conditions

have been fully complied with. In event of the assignment and transfer of the property covered by any bond, it shall remain in full force and effect until the approval by the Mining Board of a similar bond which has been executed by the new owner and filed with it. (3) To require the filing of logs, including electric logs, and drilling records, and the lodgment in the office of the State Geological Survey of typical drill cuttings or cores, if cores are taken, within 30 days from the time of the completion of any well. (4) To prevent "blow-outs," "caving" and "seepage" in the same sense that conditions indicated by such terms are generally understood in the oil and gas business. (5) To prevent fires. (6) To ascertain and identify the ownership of all oil and gas wells, producing leases, refineries, tanks, plants, structures, and all storage and transportation equipment and facilities. (7) To regulate the secondary recovery in oil pools and oil fields. (8) To regulate or prohibit the use of vacuum. (9) To regulate the spacing of wells, the issuance of permits, and the establishment of drilling units. (10) To regulate directional drilling of oil or gas wells. (11) To regulate the plugging of wells. (12) To require that wells for which no logs or unsatisfactory logs are supplied shall be completely plugged with cement from bottom to top. (13) To require a description in such form as is determined by the Mining Board of the method of well plugging for each well, indicating the character of material used and the positions and dimensions of each plug. (14) To prohibit waste, as defined in this Act. (15) To require the furnishing of such relevant information as the Mining Board may from time to time deem necessary or convenient to carry into effect the purposes of this Act.

For the purposes of this Act, the State Geological Survey shall co-operate with the Mining Board in making available its scientific and technical information on the oil and gas resources of the State, and the Mining Board shall in turn furnish a copy

to the State Geological Survey of all drilling permits as issued, and such other drilling and operating data received or secured by the Mining Board which are pertinent to scientific research on the State's mineral resources.

Whenever rules, regulations or orders are mentioned in this Act, such terms have no application to any action by the Mining Board for the management of the internal affairs thereof.

Sec. 6.1. When the applicant has complied with all applicable provisions of this Act and the rules and regulations adopted by the Mining Board pursuant thereto concerning application for and the issuance of permits for the drilling of a well for oil or gas purposes upon a unit established under such rules, regulations and orders of the Mining Board, the Mining Board shall issue the permit.

Sec. 7. The Mining Board shall have the right at all times to go upon and inspect oil and gas properties from which oil or gas is being produced, or where drilling operations have been or are being conducted for the purpose of ascertaining whether the provisions of this Act and the Orders, Rules and Regulations made in pursuance of this Act are being complied with.

Sec. 8. The Mining Board shall have the authority and it shall be its duty to make such inquiries as it may think proper to determine whether or not waste, over which it has jurisdiction, exists or is imminent. In the exercise of such power the Mining Board shall have the authority to collect data; to make investigation and inspections; to examine properties, including drilling records and logs; to examine, check and test oil and gas wells; to hold hearings; and to take such action as may be reasonably necessary to enforce this Act.

Sec. 8A. The Mining Board shall have the power and authority to regulate the disposal of salt or sulphur-bearing water and any oil field waste produced in the operation of any oil or gas well, and

to adopt proper rules and regulations relative thereto.

Sec. 9. (a) The Mining Board shall prescribe rules of order for procedure in hearings or other proceedings before it under this Act. (b) No rule, regulation or order, including change, renewal or extension thereof, shall, in the absence of an emergency, be made by the Mining Board under the provisions of this Act except after a public hearing upon at least ten days' notice given in the manner and form as may be prescribed by the Mining Board. Such public hearing shall be held at such time, place and in such manner as may be prescribed by the Mining Board and any person having any interest in the subject matter of the hearing shall be entitled to be heard. (c) In the event an emergency is found to exist by the Mining Board which requires the making, changing, renewal, or extension of a Rule, Regulation or Order without first having a hearing, such emergency rule, regulation or order shall have the same validity as if a hearing with respect to the same had been held after due notice. The emergency rule, regulation or order permitted by this subsection shall remain in force no longer than fifteen days from its effective date, and, in any event, it shall expire when the rule, regulation or order made after due notice and hearing with respect to the subject matter of such emergency Rule, Regulation or Order becomes effective.

(d) All Rules, Regulations and Orders made by the Mining Board shall be in writing and shall be entered in full in a book to be kept for such purpose by the Mining Board, which shall be a public record and open to inspection at all times during reasonable office hours. A copy of such Rule, Regulation, or Order, certified by the executive officer of the Mining Board, shall be received in evidence in all courts of this State with the same effect as the original. (e) Any interested person shall have the right to have the Mining Board call a hearing for the purpose of taking action in respect to any

matter within its jurisdiction by making a request therefor in writing. Upon the receipt of any such request the Mining Board promptly shall call a hearing thereon, and, after such hearing, and with all convenient speed and in any event within thirty (30) days after the conclusion of such hearing, shall take such action with regard to the subject matter thereof as it may deem appropriate.

Sec. 10. Any interested person affected by this Act or by any Rule, Regulation or Order made or promulgated by the Mining Board hereunder, who may be dissatisfied therewith, shall have the right to file a suit in the Circuit Court of the county wherein is situated any part of the land which is the subject matter of such action, to test the validity of any provision of this Act or any Rule, Regulation or Order made or promulgated hereunder. Such suit shall be advanced for trial and be determined as expeditiously as feasible, and no postponement, or continuance thereof shall be granted except for reasons deemed imperative by the court. In such trials, the burden of proof shall be upon the party complaining of the validity of this Act or any provision thereof or any Rule, Regulation or Order made or promulgated hereunder and any such Rule, Regulation or Order so complained of shall be deemed *prima facie* valid. An appeal may be taken from the ruling of the court as in other civil actions.

Sec. 11. Whenever it shall appear that any person is violating or threatening to violate any provision of this Act, or any Rule, Regulation or Order made hereunder, and unless the Mining Board, without litigation, can effectively prevent further violation or threat of violation, then the Mining Board, through the Attorney General, who may call to his assistance the State's Attorney of the county in which suit is instituted, shall bring suit in the name of the people of the State of Illinois against such person in the circuit court of the county wherein is situated any part of the land which is the subject

matter of such action, to restrain such person from continuing such violation or from carrying out the threat of violation. In such suit the Mining Board, in the name of the People of the State of Illinois, may obtain such injunctions, prohibitory and mandatory, including temporary restraining orders and temporary injunctions, as the facts may warrant.

Sec. 12. Before any drilling or deepening for oil or gas is done it shall be the duty of the person, having the custody or control of any land upon which he desires to drill, to secure from the Mining Board a permit for such drilling.

Sec. 13. Where an application is made to drill or deepen an oil or gas well within the limits of any city, village or incorporated town, the application shall so state, and be accompanied with a certified copy of the official consent of the municipal authorities for said well to be drilled, and no permit shall be issued unless consent is secured and filed with the application. In the event that an amended location is selected, the original permit shall not be valid unless a new certified consent is filed for the amended location.

Sec. 14. Each application for permit to drill, deepen or convert shall be accompanied by a bank draft, certified check, or post office or express money order for forty dollars (\$40.00) payable to the State of Illinois, same to be deposited with the Treasurer of the State of Illinois; provided, that all geological or structure test holes and wells upon which a permit fee has been paid may be converted for other use without additional fee.

Sec. 15. Any permit to drill a well for oil or gas shall expire one year from the date of issuance unless acted upon prior thereto by the commencement of drilling operations which are to be continued with due diligence. It shall in all respects be subject to the provisions of this Act and the rules, regulations, limitations and penalties herein pro-

vided or which may hereafter be adopted for the drilling, operation or plugging of oil or gas wells, or other drilling operations.

Sec. 16. Every owner or operator of any oil or gas well may appoint a person to act as his Attorney in fact to execute applications for permits to drill oil or gas wells, or any wells in connection therewith, and to execute bonds and any other papers relative to such permits. Such owner or operator shall file with the Mining Board a properly executed power of attorney on a form acceptable to the Mining Board. Every person so appointing an Attorney in fact shall, within five days after the termination of any such appointment, notify the Mining Board in writing of such termination.

Sec. 17. In case any person drilling an oil or gas well shall request a location over a portion of the coal where mining operations have not heretofore been conducted and where coal is in place, then said well shall be drilled and sunk with due regard for the plans for future development and extensions of said seams.

Sec. 18. In no event shall any high explosive be exploded in any well until twenty-four hours' notice of the intention has been given to the owner of any working coal seam.

Sec. 19. If when a well is sunk and there is no oil or gas found and such hole is what is commonly known as a "barren well" or "dry hole," or when a well is abandoned, then such hole shall be plugged in accordance with Rules and Regulations and Orders formulated in pursuance of the provisions of this Act. The Mining Board shall have power to determine what constitutes abandonment.

Sec. 20. No oil or gas well shall be drilled hereafter nearer than 250 feet to any opening to a working coal mine used as a means of ingress or egress for the persons employed therein or which is used as an air shaft, except by mutual agreement between the person owning or operating the mine and the oil or gas operator.

Sec. 21.1. (a) The Mining Board is authorized to issue permits for the drilling of wells and to regulate the spacing of wells for oil and gas purposes. For the prevention of waste, to protect and enforce the correlative rights of owners in the pool, and to prevent the drilling of unnecessary wells, the Mining Board shall, upon application of any interested person and after notice and hearing, establishing a drilling unit or units for each pool, provided that no spacing regulation shall be adopted nor drilling unit established which requires the allocation of more than 20 acres of surface area to an individual well for production of oil from a limestone formation in a pool the top of which lies less than four thousand feet beneath the surface (as determined by the original or discovery well in the pool), or more than 10 acres of surface area to an individual well for production of oil from a sandstone formation in a pool the top of which lies less than four thousand feet beneath the surface (as determined by the original or discovery well in the pool), provided, however, that the Mining Board may permit the allocation of greater acreage to an individual well than that above specified, and provided further that the spacing of wells in any pool the top of which lies less than four thousand feet beneath the surface (as determined by the original or discovery well in the pool) shall not include the fixing of a pattern except with respect to the two nearest external boundary lines of each drilling unit, and provided further that no acreage allocation shall be required for input or injection wells nor for producing wells lying within a secondary recovery unit as now or hereafter established.

(b) Drilling units shall be of approximately uniform size and shape for each entire pool, except that where circumstances reasonably require, the Mining Board may grant exceptions to the size or shape of any drilling unit or units. Each order establishing drilling units shall specify the size

and shape of the unit, which shall be such as will result in the efficient and economical development of the pool as a whole, and the size of no drilling unit shall be smaller than the maximum area that can be efficiently and economically drained by one well.

(c) Each order establishing drilling units in any pool the top of which lies four thousand feet or more beneath the surface (as determined by the original or discovery well in the pool) shall prohibit the drilling of more than one well on any drilling unit for the production of oil or gas from the particular pool with respect to which the drilling unit is established and shall specify the location for the drilling of such well thereon, in accordance with a reasonably uniform spacing pattern, with necessary exceptions for wells drilled or drilling at the time of the filing of the application. If the Mining Board finds, after notice and hearing, that surface conditions would substantially add to the burden or hazard of drilling such well at the specified location, or for some other reason it would be inequitable or unreasonable to require a well to be drilled at the specified location, the Mining Board may issue an order permitting the well to be drilled at a location other than that specified in the order establishing drilling units. Each order establishing drilling units for a pool shall cover all lands determined or believed to be underlaid by such pool, and may be modified by the Mining Board from time to time to include additional lands determined to be underlaid by such pool. Each order establishing drilling units may be modified by the Mining Board to change the size thereof, or to permit the drilling of additional wells on a reasonably uniform pattern.

(d) After the date of the notice for a hearing called to establish drilling units, no additional well shall be commenced for production from the pool until the order establishing drilling units has been

issued, unless the commencement of the well is authorized by order of the Mining Board.

(e) After an order establishing a drilling unit or units has been issued by the Mining Board, the commencement of drilling of any well or wells into the pool with regard to which such unit was established for the purpose of producing oil or gas therefrom, at a location other than that authorized by the order, is hereby prohibited. The operation of any well drilled in violation of an order establishing drilling units is hereby prohibited.

Sec. 22.1. (a) When two or more separately owned tracts of land are embraced within an established drilling unit, the owners of all oil and gas interests therein may validly agree to integrate their interests and to develop their lands as a drilling unit. Where, however, such owners have not agreed to integrate their interests, the Mining Board shall, for the prevention of waste or to avoid the drilling of unnecessary wells, require such owners to do so and to develop their lands as a drilling unit, before issuing a permit for the drilling thereon.

(b) All orders requiring such integration shall be made after notice and hearing and shall be upon terms and conditions that are just and reasonable and will afford to the owners of all oil and gas interests in each tract in the drilling unit the opportunity to recover or receive their just and equitable share of oil or gas from the drilling unit without unnecessary expense and will prevent or minimize reasonably avoidable drainage from each integrated drilling unit which is not equalized by counter drainage, but the Mining Board may not limit the production from any well under this provision. The portion of the production allocated to each tract included in an integrated drilling unit, formed by an integration order or by voluntary agreement, shall when produced, be considered as if it had been produced from such tract by a

well drilled thereon. In the event such integration is required, the operator designated by the Mining Board to develop and operate the integrated drilling unit shall have the right to charge to each owner of any oil and gas interest (except royalty interests reserved in the basic lease or leases) in each tract included in the integrated drilling unit his or its proportionate share of the actual expenditure required for such purpose not in excess of what are reasonable, including charges for supervision, and the operator shall have the right to receive the first production from any well drilled by him thereon, which otherwise would be delivered or paid to the other parties jointly interested in the drilling of the well, so that the amount due by each of them for his share of the expense of drilling, equipping and operation of the well may be paid to the operator of the well out of production, with the value of the production calculated at the market price in the field at the time such production is received by the operator or placed to his credit. In the event of any dispute relative to such costs, the Mining Board shall determine the proper costs.

Sec. 23.1. The owner or owners of any tract of land which is productive or capable of being productive of oil or gas or any owner or operator of an oil and gas leasehold on which productive wells are situated, under a lease authorizing the lessee or his assigns to explore for and remove oil and gas, from any sand, strata, or formation, shall be permitted, in the interest of oil and gas conservation, to introduce and inject air, gas, water, or other fluid under pressure upon such sand, strata or formation, for the purpose of recovering the oil and gas contained therein; provided, that the owner or operator of a well into which water or other fluid is to be introduced into the sand, strata, or formation, shall make a written application to the Mining Board for authority so to do, and provided that written approval has been granted him by the

Mining Board; and provided further that the operation shall be done under the rules and regulations of the Mining Board; and further provided, that such introduction or injection of air, gas, water or other liquid under pressure upon or into such sand, strata or formation shall not be deemed to be an unlawful act.

Sec. 23.2. (a) When two or more separately owned tracts of land are embraced within a pool or a portion of a pool suitable for secondary recovery methods, the owners thereof may validly agree to integrate their interest therein and to develop their land as a unit, and production from any tract in such established unit shall be regarded as production from all presently owned tracts or interests within such units.

(b) Agreements made in the interest of conservation of oil or gas, or both, or the prevention of waste, between and among owners or operators, or both, owning separate holdings in the same oil or gas pool, or in any area that appears from geological or other data to be underlain by a common accumulation of oil or gas, or both, or between and among such owners or operators, or both, and royalty owners therein, of a pool or area, or any part thereof, as a unit for establishing and carrying out a plan for the cooperative development and operation thereof, when such agreements are approved by the Mining Board, are hereby authorized and shall not be held or construed to violate any of the statutes of this State relating to trusts, monopolies or contracts and combinations in restraint of trade.

Sec. 24. The provisions of this Section shall not apply to any city, village or incorporated town which has enacted or hereafter enacts an ordinance or resolution limiting the locating or spacing of wells.

Not more than one permit per pool for each block shall be issued for any city, village or incorporated town in which oil or gas is discovered on or after

July 29, 1941. In any city, village or incorporated town in which oil or gas is discovered prior to July 29, 1941, not more than one permit per pool for each block shall be issued for any block in which no oil or gas well has been or is being drilled to any such pool prior to said date.

Sec. 25. No power herein granted to prevent waste shall be interpreted or construed as authorizing limitation of production of any well, wells, lease, leases, pool, field or properties to prevent or control economic waste or limit production to market demand.

Exploration and discovery of new and additional pools, fields and producing horizons are vital and the effect and administration of this Act shall be in accordance therewith and not contrary thereto. Any Rule, Regulation or Order issued under the general powers of this Act in violation of the provisions of this Section shall be void and of no effect.

Sec. 26. (a) Any person who violates any provision of this Act or who, after notice of any valid rule, regulation or order of the Mining Board made hereunder, violates, repeats or continues the violation thereof, shall be subject to a fine of not to exceed \$50 a day for each and every act of violation. (b) Any person wilfully aiding or abetting any other person in the violation of any provision of this Act, or any Rule, Regulation and Order made hereunder, shall be subject to the same penalties as are prescribed herein for the violation by such other person.

Sec. 27. "An Act in relation to sinking, filling and operating of wells for oil, gas, water or other purposes," approved May 16, 1905, as amended, is repealed.

Sec. 28. If any section, paragraph, sentence or phrase of this Act shall be declared unconstitutional, or void for any reason by any court of final jurisdiction, such fact shall not in any manner invalidate or affect any other section, paragraph, sen-

tence or phrase of this Act, but the same shall continue in full force and effect.

Effective July 12, 1951.

An Act concerning the production of oil and gas.

Whereas, in order to promote the development, production and utilization of the natural resources of oil and gas within the State of Illinois, it is in the public interest to encourage, authorize, and provide for the maximum recovery of oil and gas in the State, by the use and employment of fluid injection into productive oil and gas formations, including the use of secondary recovery methods, and also including cycling and recycling of gas, pressure maintenance, repressuring, and injection of air, gas, water and other fluids into productive horizons or strata, and to declare the law of the State in regard thereto, therefore:

BE IT ENACTED BY THE PEOPLE OF THE STATE OF ILLINOIS, REPRESENTED IN THE GENERAL ASSEMBLY:

Section 1. It is hereby declared to be the law of the State of Illinois that the grant in an oil and gas lease or contract to a lessee or operator of the right or power, in substance, to explore for and remove all oil and gas from any lands in the State of Illinois, in the absence of an express provision to the contrary therein contained, includes the right of the lessee, or his heirs or assigns, to do what a prudent operator using reasonable diligence, would do having in mind the best interests of the lessor and lessee, in producing and removing oil and gas, and includes the use of practices and methods employed by the oil and gas industry, including the injection of air, gas, water and other fluids into the productive formations or strata, and cycling and recycling of gas, when done upon the authority of and under the Rules, Regulations and Orders of the

Department of Mines and Minerals of the State of Illinois, as heretofore created or other Department or Commission hereafter created and authorized by law hereafter to administer the laws relating to the production of oil or gas, or both, in the State of Illinois.

Effective July 11, 1951.

An Act to amend Section 221 of Division I of "An Act to revise the law in relation to criminal jurisprudence" approved March 27, 1874, as amended.

BE IT ENACTED BY THE PEOPLE OF THE STATE OF ILLINOIS, REPRESENTED IN THE GENERAL ASSEMBLY:

Section 1. Section 221 of Division I of "An Act to revise the law in relation to criminal jurisprudence," approved March 27, 1874, as amended, is amended to read as follows:

DIVISION I.

Sec. 221. It is a public nuisance:

* * *

10. To permit any well drilled for oil, gas, salt water disposal or any other purpose in connection with the production of oil and gas, to remain unplugged, after such well is no longer used for the purpose for which it was drilled.

11. To construct or operate any salt water pit or oil field refuse pit, commonly called a "burn out pit", so that salt water, brine or oil field refuse or other waste liquids may escape therefrom in any manner except by the evaporation of such salt water or brine or by the burning of such oil field waste or refuse.

12. To permit concrete bases, discarded machinery and materials to remain around any oil or gas well, or to fail to fill any holes, cellars, slush pits and other excavations made in connection with any such well or to restore the surface of the lands surrounding any such well to its condition before the drilling of any such well, upon abandonment of any such oil or gas well.

13. To permit any salt water, oil, gas, or other wastes from any well drilled for oil, gas, or exploratory purposes to escape to the surface, or into a mine or coal seam, or into any underground fresh water supply, or from one underground stratum to another.

Effective July 23, 1943.

RULES AND REGULATIONS
of the
DEPARTMENT OF MINES AND MINERALS
for the
OIL AND GAS DIVISION

(Approved and adopted November 7, 1951, and amended February 1, 1960.)

In order to properly administer and enforce the provisions of an Act of the General Assembly of the State of Illinois entitled

“An Act in Reation to Oil, Gas, Coal and other Surface and Underground Resources, and to Repeal an Act Herein Named” filed July 29, 1941, as amended by an Act approved July 24, 1945 and as amended by an Act approved July 12, 1951, and as further amended by an Act approved July 22, 1959,

and to prevent waste as defined in said Act as amended, to promote the maximum ultimate recovery of oil and gas from the various pools, fields and reservoirs in the State of Illinois and to protect the vested or co-equal rights of the owners of oil, gas, coal and other surface and underground resources, the following Rules and Regulations are hereby adopted and promulgated by the Department of Mines and Minerals of the State of Illinois.

RULE 1

GENERAL PROVISIONS

(1) DEFINITIONS

“THE ACT”—When used herein shall refer to and mean the provisions of the aforementioned Act of the General Assembly of the State of Illinois, as amended.

“CEMENT”—As used herein shall mean Portland or “neat” cement.

“MINING BOARD REPRESENTATIVE”—When used herein shall mean any employee of the Department of Mines and Minerals of the State of Illinois, who is qualified by training and experience, and is authorized by the Director in writing, to perform in his stead the powers and duties set forth in the aforementioned Act, which do not require the exercise of administrative discretion or that may be prescribed by the Rules, Regulations or Orders of the Mining Board adopted or promulgated pursuant thereto.

“DEVELOPMENT”—Shall mean any work or operation on or appurtenant to the oil and gas leasehold premises, which actively looks toward the drilling of wells for oil or gas, or the discovery of or bringing in production.

“LEASE TANK”—Shall mean the tank or other receptacle into which oil is produced either directly from a well or from a well through a gas separator, gun barrel or similar equipment.

“LOG”—Shall mean the systematic detailed written record correctly describing the strata

and formations progressively encountered in the drilling of a well for oil or gas, including water, oil and gas formations or other underground resources, with such additional data as is usually recorded in the normal procedure of drilling, including electric surveying or logging.

“MUD-LADEN FLUID”—Shall mean any approved mixture of water and clay or other suitable material as the term is commonly used in the industry which will effectively seal the formation to which it is applied.

“PLUG OR PLUGGING”—Shall mean the abandoning of a producing, nonproductive or nonoperative well; or the stopping of the flow of oil, gas, or water in a well.

“OIL STRING”—Shall mean that string of casing placed in a well and used for the purpose of segregating the horizon or formation from which production is obtained and affording a means of bringing the oil or gas from such productive horizon or formation to the surface.

“REPRESSURE”—Shall mean to increase the reservoir pressure by the introduction of gas, air or water or other fluid into the reservoir.

“ROTARY DRILLING”—Shall mean the hydraulic process of drilling a well for oil or gas as such method is commonly used in the industry.

“SHOOTING”—Shall mean the exploding of nitroglycerin or other high explosives in a well hole for the purpose of discovering or increasing the production of oil or gas therefrom or in perforating or parting the pipe therein.

“SPECIAL MUD MATERIALS”—Shall mean weighting material such as barium sulphate, Bentonitic clays, salt-resistant clays, filtration reduction agents and fibrous materials.

“UNDEVELOPED LIMITS OF A MINE”—The undeveloped limits of a mine are that portion of a mine where the entries have not been driven to the boundaries of the mine property.

“VACUUM”—Shall mean pressure which is reduced below the pressure of the atmosphere.

“WASTE LIQUIDS”—Shall mean oil field brines, cut oil, bottom sediments, concentrated sulphur water and acid waters.

“WELL”—Shall mean any well drilled for the purpose of discovering oil or gas, or any other purpose in connection with the exploration and production of the same including gas, air and water input wells.

“DIRECTIONAL DRILLING”— Shall mean the controlled directional drilling when the bottom of the well bore is directed away from the vertical position.

“DRILLING UNIT”—Shall mean the surface area allocated by an order or regulation of the Mining Board to the drilling of a single well for the production of oil or gas from an individual pool.

“PATTERN FLOOD”—Shall mean a definite geometric arrangement of the input wells and the producing oil wells with a constant distance between the input and oil wells for any definite pattern.

(2) PREVENTION OF WASTE

All owners, managers, contractors, drillers, service companies, pipe pulling and salvage contractors or other persons drilling, casing or plugging oil or gas wells in this State shall at all times conduct their operations, and drill, case, plug and abandon the same in the manner set forth by the Act or as hereinafter provided, so as to prevent waste or the escape of oil or gas out of one stratum

to another, prevent the intrusion of water into oil, gas, or coal strata, and prevent the pollution of fresh water supplies by oil, gas, salt water, or sulphur-bearing water.

(3) JURISDICTION

As provided in the Act, the Mining Board shall have jurisdiction and authority over all persons and property necessary to enforce effectively the provisions of the Act.

(4) ENFORCEMENT OF ACT

The Mining Board of the Department of Mines and Minerals of the State of Illinois, being charged with the duty of enforcing the provisions of the Act and all valid Rules, Regulations and Orders adopted and promulgated pursuant thereto, may enforce or cause same to be enforced by action initiated by the Oil and Gas Division of the Department of Mines and Minerals.

(5) DELEGATION OF AUTHORITY

The Mining Board may authorize in writing any employee of the Department (herein designated Mining Board Representative) qualified by training and experience, to perform in his stead the powers and duties set forth in the Act, which do not require the exercise of administrative discretion, or that may be prescribed by the Rules, Regulations or Orders of the Mining Board adopted and promulgated pursuant thereto.

(6) RIGHT OF INSPECTION

Any authorized Mining Board Representative shall have the right at all times to go upon and inspect any oil and gas leasehold premises or property where drilling operations are or have been conducted, or from which oil or gas is being produced, for the purpose of making any investigation or tests to ascertain whether the provisions of the Act or the Rules, Regulations or Orders of the Mining Board are being complied with, and shall

make due and timely report of any violation thereof.

(7) RIGHT OF ACCESS

Any authorized Mining Board Representative shall have access to all well records wherever located. All persons having the custody or jurisdiction of the same shall permit the authorized Mining Board Representative to come upon any leasehold or other premises or property operated or controlled by them and have access at all times to, and inspect records pertaining to the drilling, completion, operation or plugging of any well drilled in this State, provided always that any information so obtained shall be considered confidential, and reported to, and only to, the Oil and Gas Division in the Department of Mines and Minerals; except that, any information so obtained may be presented as evidence in any proceeding concerned with any alleged violation of the Act or any valid Rule, Regulation or Order adopted or promulgated pursuant thereto.

(8) SWORN STATEMENTS

The Mining Board shall require sworn statements or affidavits when it is deemed to be expedient or necessary to effectuate the provisions of the Act. When such sworn statements or affidavits are required the same shall be sworn to before an officer or person authorized to administer oaths in the state where oath is taken.

(9) ADDITIONAL REPORTS

When requested in writing by the Mining Board, any oil well servicing company or other person or persons in the control or custody thereof, shall furnish and file with said Division any reports and records showing gun perforation, squeeze, cementing, shooting or chemical treatment of any well or wells, which information shall also be considered as confidential, except when presented as legal evidence in any court proceedings concerned with

any alleged violation of the Act or any valid Rule, Regulation or Order adopted or promulgated pursuant thereto.

(10) WHEN RULES AND REGULATIONS BECOME EFFECTIVE

All rules and regulations herein shall be in full force and effect when adopted and promulgated by the Mining Board, after notice and hearing as provided by the aforementioned Act, except as the same may hereafter be amended, modified, altered or enlarged in the same manner by the Mining Board.

(11) NOTICE OF RULES AND REGULATIONS

When the Mining Board issues any order under its Rules or Regulations, or under the Act, and mails a copy of the same by registered mail to the owner or manager concerned, with return receipt requested, it shall constitute legal notice of any such order of the Mining Board.

(12) FORMS

The Oil and Gas Division of the Department of Mines and Minerals shall prescribe and prepare all forms required under the Rules and Regulations herein and, when requested, shall furnish requisite copies of either thereof to any interested person requiring use of the same.

(13) HEARINGS—NOTICE

The Mining Board shall have authority to call public hearings or private hearings involving interested parties concerning matters pertaining to oil and gas activities.

(A) PUBLIC HEARINGS

A notice of public hearing as provided by the aforementioned Act shall be given by publishing one (1) notice of the time and place thereof in at least five (5) newspapers of general circulation within the main oil-producing counties

of Illinois, and such notice shall be published at least ten (10) days prior to the date of such hearing.

(B) PUBLISHER'S CERTIFICATE

Whenever notice of a hearing or Mining Board action is required to be published in a newspaper of general circulation, each publisher of the newspaper publishing said notice shall file with the Mining Board a copy of the published notice with an affidavit setting forth the date such notice was published in said newspaper.

(C) OTHER HEARINGS

A notice of hearings other than public hearings may be given by mailing a notice of the time and place of such hearing, by registered mail, with a return receipt requested, to the last known address of all persons concerned in the matter to be heard. Such notice shall be mailed at least ten (10) days prior to the date of the hearing.

In addition to such notice, the Mining Board may publish a notice of such hearing, in one (1) issue, of one (1) or more newspapers in or near the vicinity of the area involved in the matter to be heard.

RULE II

PERMITS

(1) GENERAL PROVISIONS

All applications for permits shall conform or be subject to the following requirements:

(A) APPLICATION TO BE FILED

All applications for permits shall be signed by the owner or manager or by a person authorized to sign for such owner or manager or by a member of an established firm, partnership, or association. Any person may sign for a corporation who is duly authorized so to do. Persons so authorized shall either sign personally or as Attorney in fact. If such person signs as an Attorney in fact, then a certified copy of the power of attorney shall accompany the application, unless one has been previously filed with the Mining Board.

If the application is signed by the manager, he shall furnish the Mining Board with a signed statement accompanying the application that he is the managing operator of the well and will be solely responsible for any and all violations of the Illinois Statutes and the Mining Board Rules and Regulations in the drilling, testing, completion, operation, and plugging of the well. The manager's responsibility for violations ceases if a new manager is appointed and furnishes the Mining Board with a signed managing operator's statement, as above provided.

(B) COPY OF EVIDENCE OF OWNERSHIP TO BE ATTACHED

No person shall be issued a permit for any purpose unless he has custody and control of the lands involved, either by being the fee owner

or by having a valid lease or agreement with the owners of the right to drill for oil and gas on the lands in question, proof of which shall be submitted by the applicant, by either attaching to the application certified copies of the original instruments or photostatic copies thereof, or, at the election of the applicant, by submitting a form to be furnished by the Mining Board, setting forth all such pertinent facts, which shall be subscribed and sworn to by the applicant, who shall certify the facts contained therein are true.

(C) WHEN PERMIT TO BE ISSUED

No permit shall be issued by the Mining Board until the applicant has fully met all requirements and the application is approved by the Department.

(D) PERMIT ISSUED TO OWNER OR MANAGER

All permits shall be issued by the Mining Board in the name or names of the person, firm or corporation for whom the application is made and who furnishes the bond.

(E) PERMIT POSTED AT WELL SITE

When fee permits are required no person shall commence drilling operations until the permit has been issued by the Mining Board and the original, a duplicate or a photostatic copy thereof posted at the well site.

(F) AUTHORITY TO DENY PERMIT

The Mining Board shall have authority to deny a permit to any person, when such person is in violation of the aforementioned Act or any valid and lawful Rule, Regulation or Order adopted or promulgated by the Mining Board.

(G) PERMITS NOT TRANSFERABLE

Permits issued under the Act are not transferable.

(2) APPLICATION FOR PERMIT TO DRILL OR DEEPEN WELL

(A) REQUIREMENTS

Before any person shall spud in or commence the actual drilling of any well for the discovery of oil or gas or commence operations to deepen any well to a different geological formation, such person shall file with the Oil and Gas Division of the Department, an application for a permit to drill or deepen such well on such form as the Mining Board shall require.

(B) DRILL OUT OR DEEPEN PLUGGED WELL

In order to drill out or deepen a previously plugged well, the same requirements shall apply as stated in Rule II (2) (A) except that no permit shall be issued to drill out or deepen a previously plugged well which is located less than 330 feet from the two nearest external boundary lines of the drilling unit. Exceptions shall be granted when the plugged well adjoins or is on that part of a leasehold on which secondary recovery operations are now or hereafter established.

(C) CONTENTS OF APPLICATION

The application for a permit shall include the following information, viz:

The name of the leasehold and exact location, by plat, of the well proposed to be drilled or deepened and the approximate location of producing wells previously drilled to the same formation on said leasehold, together with the name and approximate location of the offset well or wells on adjoining leaseholds, and a statement as to whether or not such proposed well location is within the limits of any incorporated city, town, or village.

Applications for permits shall be certified to by a registered Illinois land surveyor or registered professional engineer who works for the extraction of minerals from the earth.

The application shall include the names and addresses of lessor, lessee, owner, or manager and the person responsible for the conduct of drilling operations, and the name of the contractor, if available. The application shall also indicate the type of drilling tools or equipment to be used and the lowest proposed depth and geological formation to be tested.

When the applicant is not the individual owner or manager, if the applicant is a partnership, firm, association, or corporation, and if a corporation, whether its charter authorizes oil operations. If an assumed business name is used, whether it is registered as provided by the Illinois Statutes, giving county of registration.

(D) FEE

The applicant shall remit with the application to either drill, or deepen a well to a different geological formation, a fee of forty dollars (\$40.00) by check, draft, Post Office or Express Money Order payable to the State of Illinois and shall give bond as hereinafter provided.

(E) EXPIRATION OF PERMIT

All permits shall be issued to cover a period of one (1) year from the date of issue and shall expire at that time unless acted upon prior thereto by the commencement of drilling operations at the location specified in said permit, and the drilling operations shall be continued with due diligence until the well is completed as a producer or has been completed at the authorized formation named in the permit; provided always that the Mining Board shall have the authority to revoke a permit when the Mining Board finds

that any fraud, deceit, or misrepresentation was made to obtain the issuance of said permit.

Each such permit shall expire before the period of one (1) year from date of issue when and as the permittee has completed the work specified in such original permit and the well is abandoned as a dry hole or the terms of the lease on the lands in question expire by their own limitation or the lease is canceled or forfeited in the manner provided by law.

In the event the well for which a permit was issued be productive of oil or gas, then such permit shall continue in full force and effect so long as oil or gas or other petroleum products are produced, saved, or marketed therefrom.

(F) CHANGE OF LOCATION

If a permittee requests a change of location for the drilling of the well before its completion and such change is upon the same lease and is not over thirteen hundred and twenty (1320) feet from the original location and such proposed change meets with the approval of the Mining Board, the permittee shall return the original permit together with an amended application for such change of location.

(G) DIRECTIONAL DRILLING

In controlled directional drilling when the intent is to direct the bottom of the well bore away from the vertical position, in addition to an application for a well permit the applicant shall furnish the Mining Board with the proposed direction of deviation and proposed horizontal distance between the bottom of the well bore and the surface location. If a permit is issued by the Mining Board, the permittee shall file with the Mining Board, within thirty (30) days after the completion of the well, a certified accurate and complete copy of the directional survey of said well. No person, company, or organization shall

direct, or assist in directing, any well bore away from the vertical position until the Mining Board has issued a permit for such directional drilling.

(3) APPLICATION FOR PERMIT FOR GEOLOGICAL OR STRUCTURAL TEST HOLE

As provided by the Act, the Mining Board shall require any person desiring or proposing to drill geological or structural test holes in connection with any operation for the exploration or production of oil or gas, to secure a permit therefor. In addition to complying with all provisions enumerated herein, the applicant shall give bond as further required by the Act, and shall also indicate the type of drilling tools to be used and the lowest proposed depth and geological formations to be tested. No permit fee is required for this type of test hole.

Mine or quarry drill or blast holes, seismograph test holes or holes drilled to explore strippable coal are exempt from the provisions of the Act. All wells drilled for water which do not penetrate the subsurface below the glacial drift are also exempt from the provisions of the Act.

(4) PERMITS FOR SALT WATER DISPOSAL OR FOR GAS, AIR, WATER, OR OTHER LIQUID INPUT WELLS

In order to prevent waste as defined in the Act, the Mining Board shall require any person desiring to convert any well now drilled, or any person desiring to drill or deepen a well for the purpose of injecting gas, air, water, or other liquid into any underground formation or strata to secure a permit therefor.

(A) REQUIREMENTS FOR PERMIT

In addition to complying with all provisions enumerated and required in Section (1) "GENERAL PROVISIONS" above, the applicant for a permit for a salt water disposal well

or for a gas, air, water, or other liquid input well shall provide a bond as required by the Act.

In the application for a permit for such input well, the applicant shall indicate the location of all producing oil and gas wells, drilling wells or abandoned holes, within one-half ($\frac{1}{2}$) mile radius and all mines or mined out areas or the undeveloped limits of a mine within a like distance of such proposed well, together with the names and addresses of their owners, the name and description of the substance to be injected, and the depths and formation where the proposed injection will be made. The applicant shall also submit the log of such input well if previously drilled, and description and character of casing and cementing operations behind the same, and size of hole drilled.

(B) NOTICE TO OTHER OWNERS OR MANAGERS

Every person desiring to inject any such substance into an underground formation or stratum, shall notify the owners or managers of every oil or gas well, including those drilling or temporarily abandoned, and the owner of every mine, including the mined-out and undeveloped limits of any mine, within a one-half ($\frac{1}{2}$) mile radius, by registered mail on or before the day the application is filed with the Mining Board, and proof of such notice shall accompany said application. The name of the formation shall be included in the notice, and the approximate depth of the top and bottom of the formation to be injected is to be given. On receipt of such application and proof, the Mining Board shall hold the application for ten (10) days pending the filing of objections. In event objection is made within such time or the Mining Board deems a hearing should be had, notice shall be given to each objector and the applicant of the time and place designated by the Mining Board for such hearing.

(C) AUTHORITY TO DENY PERMIT

The Mining Board shall have authority to deny a permit when, in its judgment, there is danger of waste or when it believes the proposed protective work is not sufficient to confine the substance injected to the intended strata.

(D) AUTHORITY TO SUSPEND OPERATIONS

At any time it seems apparent that the injected substance is not being confined to the intended stratum and is migrating to other stratum or to the surface, the Mining Board shall have authority to suspend operations and after notice and hearing to prohibit the further use of any such well for said purposes.

(E) FEE

The applicant shall remit with the application to either convert, drill or deepen a well for the purpose of injecting any liquid into any underground formation or strata a fee of forty dollars (\$40.00) by check, draft, Post Office or Express Money Order payable to the State of Illinois, provided that all wells upon which a permit fee has been paid may be converted for the above mentioned purpose without additional fee.

(5) PERMIT REQUIREMENTS IN MINE AREAS

(A) FOR WELL PENETRATING MINE

When the location of a well to be drilled for oil or gas, or any purpose in connection therewith, will penetrate an active mine or through the mined out and inaccessible or sealed off area of an active mine, or shall penetrate the same in a temporarily abandoned mine, or the undeveloped limits of any such mine property, a drilling permit shall not be issued by the Mining Board until an agreement shall be reached between the owner of the proposed well and the mine owner,

or in the event of failure to reach such an agreement a permit will not be issued until a hearing is held as hereinafter provided.

(1) AGREEMENT WITH MINE OWNER

A copy of such agreement, jointly signed by the applicant for a permit and the mine owner agreeing to the drilling of the well and the proposed location, shall be filed with the application and accompanied by a map or sketch showing the well location, its relation to shafts and mine buildings, and to each coal seam or seams and mine workings underlying applicant's lease, or a statement from the mine owner that the location is over the undeveloped limits of the mine.

(2) REQUIREMENTS IN ABSENCE OF AGREEMENT

In the absence of such an agreement or statement, the applicant shall file with application for permit a map or sketch showing the well location, its relation to shafts and mine buildings, if any, as well as its relation to the mine workings underlying applicant's lease, with a sworn statement that a true and exact copy of application and accompanying exhibits was mailed postage prepaid to the coal company or its authorized agent in Illinois, by United States registered mail.

If within ten (10) days from the receipt of the application for permit by the Mining Board no written objections are filed, the Mining Board shall issue or deny the permit.

Upon the filing of objections to the issuance of the permit, the Mining Board shall promptly set the matter for hearing and decision.

(B) REQUIREMENTS IN INACTIVE MINING AREAS

In inactive mining areas where the existence of workable coal is known to be present and the

ownership of such workable coal has been recorded in the county records, the applicant for a permit to drill a well for oil and gas or to drill any well in connection with the production of oil and gas shall notify the owner of said workable coal by registered mail with return receipt requested. The notice shall show the exact location of the proposed test and the approximate depth of the formation to be tested. The Mining Board shall be furnished with a copy of the notice attached to the application for permit, with the return receipt from the owner of the workable coal or, in lieu thereof, a sworn statement that the applicant has the return receipt in his possession, giving the names and addresses of the owners of the coal rights and date of delivery of the notice.

(1) NOTICE TO MINE OWNER

No permit shall be issued to the applicant until ten (10) days have elapsed following the receipt of the registered notice by the owner of the workable coal.

(2) MAPS AVAILABLE AT WELL SITE

The permittee shall have an exact copy of the maps and sketches filed by him with the application for a permit at the well site, for the use of the Mining Board and its representatives.

RULE III

BONDS

(1) WHEN BONDS REQUIRED—AMOUNT

As provided by the aforementioned Act, the Mining Board shall require every person previous to the commencement of drilling for oil, gas or any other purpose in connection therewith, and every person who has created or acquired any well drilled for these purposes which has not been plugged and abandoned in accordance with the Laws, Rules, Regulations or Orders of the Mining Board, to execute and file with the Mining Board a bond of one thousand dollars (\$1000) for each of such wells, or in lieu thereof a blanket bond in the sum of twenty-five hundred dollars (\$2500) for all wells to provide for the compliance with the provisions of the aforementioned Act and all amendments thereof and to the Rules, Regulations and Orders of the Mining Board issued under the provisions of said Act and all amendments thereto.

(2) KIND OF BOND—EXECUTION

(A) SURETY OR CASH BOND

When surety bonds are given they shall be executed by a responsible surety company authorized to do business in the State of Illinois.

Cash bonds on Departmental form are acceptable when accompanied by certified check payable to the State of Illinois.

(B) PERSONAL BOND

If any other type of bond is given, the principal and the surety shall be bona fide residents of Illinois. The Mining Board is authorized to scrutinize and investigate each bond before it shall be approved or rejected, and the Mining

Board shall have thirty (30) days to pass on the sufficiency of any such bond.

(C) EXECUTION OF BOND

The Mining Board shall not approve any bond until it is personally signed and acknowledged by both the principal and surety, or for them by an attorney in fact with a certified copy of the power of attorney attached thereto.

(3) BOND OF MANAGER

The person, firm or corporation in whose name the permit is issued shall be named as principal on the bond and shall execute same for such well, together with a written statement to the Mining Board that he is the manager and will be solely responsible for any and all violations of the aforementioned Act or any Rule, Regulation or Order of the Mining Board adopted or promulgated pursuant thereto, that may occur in the drilling, operation or plugging of the well. Where the holder of a fractional working interest in the leasehold is designated as manager, he may furnish a bond.

(4) BOND FORM—APPROVAL

All bonds shall be given on a form to be prescribed by the Mining Board and shall be subject to its approval. The Mining Board may at any time request a new bond or additional sureties when it has reason to believe the present bond is inadequate.

(5) SURETY MAY CANCEL BOND

On thirty (30) days' written notice given to the Mining Board, any surety may cancel a bond or remove himself as surety, and in event of such, the surety shall not be responsible under the terms of the bond beyond the thirty-(30) day period after notice is given to the Mining Board, but shall continue to be liable for all the liabilities accruing under the bond during the period of the time he, they or it was the surety thereon.

(A) REQUIREMENTS BEFORE BOND MAY BE CANCELED

The provisions of the laws of the State of Illinois require the plugging of the well, or wells, the filling of all excavations, the removal of all concrete bases, discarded machinery and material, and restoring the surface as nearly as possible to its former condition before such well, or wells, was drilled; and such bond shall be renewed and be continued in effect until the aforesaid conditions have been fully complied with.

(6) MINING BOARD MAY CANCEL BOND

A bond given in accordance with the provisions of this rule may, upon not less than thirty (30) days' written notice to the Mining Board, be cancelled by the Mining Board, upon satisfactory proof's being furnished to the Mining Board by the principal or surety that all conditions and provisions of said bond have been fully complied with. In the event of a default by the principal in any of the conditions of the bond, the surety or sureties on such bond shall be responsible for the immediate and full compliance with the conditions of said bond.

(7) CASING PULLER'S BOND

Any person engaged in pulling casing from abandoned oil or gas wells and wells used in connection therewith, who purchases such wells for the purpose of salvaging material from the same, shall file a bond with the Mining Board in the sum of one thousand dollars (\$1000) for an individual well or in lieu thereof a blanket bond in the sum of twenty-five hundred dollars (\$2500) to guarantee the ultimate plugging of these wells conformable with the Rules, Regulations and Orders of the Mining Board, including the restoration of the ground conditions, such as filling the pits, leveling the well site, and cutting off surface pipe below plow depth, if the ground conditions have not previously been rectified by the prior owner of such well or wells.

RULE IV

SPACING OF WELLS

(1) GENERAL SPACING RULES

The Mining Board shall not issue a permit for the drilling or deepening of a well for the production of oil or gas within the State of Illinois unless the proposed well location and spacing substantially conform to the following:

(A) WELLS DRILLED OR DEEPEMED TO A POOL THE TOP OF WHICH IS LESS THAN 4,000 FEET BENEATH THE SURFACE

(1) The well shall be located not less than 330 feet from the two nearest external boundary lines of a drilling unit which shall be established by the Mining Board and shall consist of:

- (a) a minimum of ten (10) acres of surface area to an individual well drilled or deepened for the production of oil or gas from a sandstone formation in a pool the top of which lies less than four thousand feet beneath the surface, or
- (b) a minimum of twenty (20) acres of surface area to an individual well drilled or deepened for the production of oil or gas from a limestone formation in a pool the top of which lies less than four thousand feet beneath the surface;

provided, however, the Department may permit the allocation of greater acreage to an individual well than that above specified whenever the Department deems it to be practical or expedient so to do.

- (c) The drilling unit for a well to be drilled or deepened for the production of oil or

gas from a sandstone formation shall consist of ten (10) acres of surface area lying within the quarter-quarter-quarter section of land as established by the official United States Public Land Survey made pursuant to the provisions of an act of Congress.

- (d) The drilling unit for a well to be drilled or deepened for the production of oil or gas from a limestone formation shall consist of twenty (20) acres of surface area lying within the east-west or north-south one-half of a quarter-quarter section of land as established by the official United States Public Land Survey made pursuant to the provisions of an act of Congress.

(B) WELLS DRILLED OR DEEPENED TO A POOL THE TOP OF WHICH IS 4,000 FEET OR MORE BENEATH THE SURFACE

(1) In the absence of a specific order of the Mining Board following notice and hearing as prescribed in Section B-(6) of Rule IV which establishes drilling units and the well locations in pools the top of which lies 4,000 feet or more beneath the surface (as determined by the original or discovery well in the pool), the Mining Board hereby establishes drilling units consisting of:

- (a) a minimum of forty (40) acres of surface area to an individual well drilled or deepened for the production of oil or gas from a pool the top of which lies between 4,000 and 6,000 feet below the surface;
- (b) a minimum of one hundred sixty (160) acres of surface area to an individual well drilled or deepened for the production of oil or gas from a pool the top of which lies below 6,000 feet;

- (c) The drilling unit for a well to be drilled or deepened for the production of oil or gas from a pool the top of which lies between 4,000 and 6,000 feet beneath the surface shall consist of forty (40) acres of surface area lying within a quarter-quarter section of land. The location of the well in each drilling unit shall be not less than 330 feet from the nearest external boundary lines nor less than 900 feet from the nearest location of a producing well or well being drilled or for which a permit has previously been issued for the drilling of a well to the same individual pool;
- (d) The drilling unit for a well to be drilled or deepened for the production of oil or gas from a pool the top of which lies 6,000 feet or more beneath the surface shall consist of one hundred sixty (160) acres of surface area lying within a quarter section of land. The location of the well in each drilling unit shall be in the approximate center of one of the quarter-quarter-quarter sections which corners on the center of the one hundred sixty (160) acre unit;

and hereby expressly authorizes by this general order, the issuance of permits and the commencement of wells in accordance with the spacing provided in this Section (1) B-(1) of Rule IV, notwithstanding the fact that notice may have been given of a hearing upon any application to establish drilling and spacing units.

(2) The Mining Board, upon application of any interested person and after notice directed to all interested persons as prescribed in Section (1) B-(6) of Rule IV and hearing thereon shall establish by specific order a drilling unit or units for each pool the top of which, as measured in

the original or discovery well in the pool, lies four thousand feet or more below the surface of the earth at the location of such well. All drilling units established for each pool or portion thereof shall be of uniform shape and size.

(3) All drilling units in pools the top of which lies four thousand feet or more beneath the surface, in response to initial application for establishing the size of drilling units, shall be established to include the greatest area which may be efficiently drained by one well. When and if information from additional wells demonstrates that smaller drilling units are needed, then, upon application by any interested person and after notice directed to all interested persons as prescribed in Section (1) B-(6) of Rule IV and hearing thereon, the existing order establishing the size and shape of drilling units shall be modified.

(4) Each order establishing drilling units in any pool the top of which lies four thousand feet or more beneath the surface (as determined by the original or discovery well in the pool) shall prohibit the drilling of more than one well on any drilling unit for the production of oil or gas from the particular pool with respect to which the drilling unit is established and shall specify the location for the drilling of such well thereon. Such location shall be fixed whenever possible to permit reduction of the size of such drilling units or drilling of additional wells on such drilling units. Each such order shall also specify the geographic limits of the pool or pools subject to such order.

(5) For good cause shown upon application and after notice as provided in Rule IV (1) B-(6) hereof and after hearing, the Mining Board shall grant exceptions to the size and shape of a drilling unit or to the location of the well in a drilling unit in accordance with

the provisions of subsection (F) of this subsection (1) of this Rule IV. Whenever it appears that the geographic limits of a pool as specified in an order are incorrect, the Mining Board shall, upon application of an interested person and after notice and hearing as required in Rule IV (1) (B) (6) immediately here below, amend the order to specify the correct geographical limits of the pool.

(6) Each application filed under Rule IV (1) (B) (2) above shall be filed in the Oil and Gas Division of the Department. Each such application shall, insofar as possible, contain all information needed by the Mining Board to take the action requested. Notice of all hearings held under said Rule IV (1) (B) (2) above shall be given as provided in Rule I (13) (C) hereof. Every application filed under this Rule IV (1) (B) (2) shall be heard and an order entered by the Mining Board within thirty (30) days after the filing thereof as required herein. All interested persons shall be entitled to be heard at every hearing held under this Rule IV (1) (B) (2).

(C) SEPARATELY OWNED TRACTS WITHIN DRILLING UNIT

(1) When two or more separately owned tracts of land are embraced within a proposed drilling unit, the Mining Board shall establish the boundary lines of such drilling unit and shall require the owners of all interests in the oil and gas underlying such separately owned tracts to integrate their interests and develop said lands as a drilling unit before a permit is issued to drill or deepen a well thereon for the production of oil or gas.

(2) In the event the owners of any interest in the oil and gas underlying such separately owned tracts in a proposed drilling unit have

not agreed to integrate their interests and develop said lands as a drilling unit, then any owner in either tract may file with the Mining Board an application for a permit to drill or deepen a well for the production of oil or gas. The applicant shall furnish all pertinent data and information requested or required by the Mining Board. Whereupon the Mining Board, shall, after notice to all parties in interest and hearing on said application, enter an order either approving or denying said application; and, if approved, the Mining Board shall by said order, integrate such separately owned tracts in the established drilling unit and may in said order allocate on a surface acreage basis a portion of the production to each owner of each tract, designate the owner or operator to develop and operate the integrated unit and specify the basis upon which each such owner shall share all reasonable expenses of developing and operating the integrated tract, provided that the share of such expenses of each owner who has not agreed to such unit operation shall be recovered by the designated owner or operator of the integrated tracts only from production of oil or gas obtained from the well drilled on such unit.

(D) TWIN WELLS

Twin wells may be drilled on a drilling unit to different sandstone or limestone formations, allocating the acreage in the drilling unit for each producing formation as above provided.

(E) WELLS WITHIN CORPORATE LIMITS

In any city, incorporated village, or town which has not enacted or does not hereafter enact an ordinance or resolution limiting the locating or spacing of wells drilled for the production of oil or gas, only one (1) permit per pool for each block shall be issued by the Mining Board. If the location of the well is on a partial block already

surveyed and platted for a city, incorporated village, or town, the applicant for a permit to drill or deepen a well for the production of oil or gas shall communitize this partial block with an adjoining block before a permit will be issued. A certified copy of the official consent of the municipal authorities to drill or deepen a well located within the limits of any city, incorporated village, or town must accompany the application for permit. A certified copy of consent of the municipal authorities is also required for an amended location.

(F) EXCEPTIONS

(1) Whenever the topographical conditions of a drilling unit render it impractical, without unreasonable expense, to drill a well at a location in conformity with the spacing rules, the Mining Board may alter the location after investigation and verification of the topographical conditions.

(2) In those areas where the U. S. Government has not made an official survey, in areas covered by the old French Surveys and Grants, in meandered lands, in government lots, and in subdivisions thereof where the acreage in quarter-quarter-quarter sections and quarter-quarter sections does not conform to the spacing and drilling requirements of the law and the rules and regulations, the Mining Board shall have the authority to establish drilling units and to grant exceptions for wells when such drilling units are approximately ten (10) acres for sandstone horizons and twenty (20) acres for limestone horizons and will not cause a greater well density than would be encountered in regular official surveys.

(3) In case of irregular sections containing more or less than 640 acres, the Mining Board shall have the authority to allow exceptions or create units other than quarter-quarter-quarter sections in sandstone horizons and other than half quarter-quarter sections in limestone horizons so

as to allow approximate units of ten (10) acres in sandstone and twenty (20) acres in limestone horizons in order to absorb the entire acreage in such sections into units as aforesaid.

(4) Gas, air, water, or other liquid input wells, salt water disposal wells, and structure tests are exempt from any spacing requirements.

(5) In order that a proposed well may be located over an existing or proposed pillar of a mine property, the foregoing spacing requirements may be waived by the Mining Board when the well to be drilled or deepened for oil or gas will penetrate an active mine, the mined-out or inaccessible portion of an active mine, a temporarily abandoned mine, or the undeveloped limits of any such mine property.

(6) Each person desiring the Mining Board to grant an exception for a reason other than those specified in Paragraphs (1), (2), (3), (4), and (5) of this Section (F) shall submit with his application for permit a statement setting forth the desired exception and the reasons or necessity therefor, and giving in detail the action the applicant has taken in such matter. The applicant shall notify, by registered mail on or before the day the application is filed with the Mining Board, the owner or manager of every oil and gas well within one-half ($\frac{1}{2}$) mile radius of the proposed well location, and proof of such notice shall accompany said application. Upon receipt, the Mining Board shall hold such application and proof of notice ten days for possible objections. In the event objection is made within such time or the Mining Board deems a hearing should be had, the Mining Board shall give notice to each owner or manager listed in the proof of notice, and to the applicant, of the date and place designated by the Mining Board for such hearing. After such hearing the Mining Board shall either issue or deny the permit.

(2) SECONDARY RECOVERY

Spacing regulations for oil wells will not be waived in areas where the applicant declares an intention to undertake a proposed secondary recovery operation, until one or more input wells are first drilled or other wells are actually converted to input wells after permits have been issued for such conversion.

(A) PATTERN FLOOD

(1) When an applicant applies for a permit to drill or deepen an oil well at a location which complies with the regular spacing requirements set out in Rule IV (1) (A) or (B), a permit shall be issued by the Mining Board.

(2) When an applicant applies for a permit to drill or deepen an oil well using the same spacing pattern as that used in an adjacent pattern flood, a permit shall be issued by the Mining Board.

(3) When an applicant applies for a permit to drill or deepen an oil well at a lesser distance to the boundary lines of his leasehold than are the existing oil wells in an adjacent pattern flood, the applicant shall notify, by registered mail, the owners or managers of oil wells in the established secondary recovery projects within one-half mile of the proposed well, stating his intentions as described in his application for a permit. A copy of the notification will be held by the Mining Board ten days after its receipt with the application for a permit. If no written objections are received by the Mining Board from the operators so notified, the permit shall be issued. If written objections are received by the Mining Board within the ten-day period, the Mining Board shall call a hearing to determine the merits of issuing such a permit. After such hearing the Mining Board shall either issue or deny the permit.

(B) OTHER FLOODS

(1) When the spacing of oil wells and/or input wells is not based on a geometric arrangement, as defined in the definition of a pattern flood, the following shall apply:

- (a) When the location of the proposed oil well requested complies with the regular spacing requirements set out in Rule IV (1) (A) or (B), a permit shall be issued by the Mining Board.
- (b) When the location of the proposed oil well requested does not comply with the regular spacing requirements set out in Rule IV (1) (A) or (B), the applicant shall notify, by registered mail, the owners or managers of oil wells within one-half mile of the proposed well, stating his intentions as described in the application for a permit. A copy of the notification will be held by the Mining Board ten days after its receipt with the application for a permit. If written objections are received by the Mining Board within the ten-day period, the Mining Board shall call a hearing to determine the merits of issuing such a permit. If no written objections are received by the Mining Board from the operators so notified, the Mining Board shall either issue a permit or, at its discretion, call a hearing to determine the merits of issuing such a permit. If a hearing is held, the Mining Board shall subsequently either issue or deny the permit.

(C) RECORD TO BE KEPT

If any owner or manager of a leasehold adjoining a secondary recovery project files with the Mining Board a verified complaint stating that he has reasonable grounds to believe second-

ary recovery operations are being conducted on the offset leasehold in such manner as to violate or impair his right to recover the oil or gas underlying his leasehold premises, the Mining Board may require the owner or manager of such secondary recovery project to submit to the Mining Board his or its records and data showing the average production from said leasehold, the formation or formations subjected to such secondary recovery operations, and the daily injection volume and pressure of each input well thereon, during the period of two full calendar months preceding the filing of such complaint. If such records have not been kept by such owner or manager, the Mining Board may require that the same be kept for a specified period of time, not to exceed two full calendar months, and furnished to the Mining Board. The information or data submitted by the owner or manager of such secondary recovery project shall be confidential except that the Mining Board may exhibit the same to complainant. This rule shall not be construed to prevent the Mining Board from taking any other action authorized by the Act which it may deem necessary in order to prevent waste.

(3) NONCONFORMING WELL TO BE PLUGGED

Any well drilled in violation of the permit issued therefor shall not be allowed to produce oil or gas, but after notice and hearing by the Mining Board the said well shall be plugged and abandoned unless an exception be granted by the Mining Board.

RULE V

FILING OF LOGS AND WELL INFORMATION

(1) RETURN OF COMPLETION CARD

A completion card will be attached to each drilling permit issued by the Mining Board. Upon completion of the well for which the permit is issued, the owner, manager, or operator of said well shall furnish the information requested thereon, and shall mail the same promptly, addressed to the Oil and Gas Division of the Department of Mines and Minerals, Springfield, Illinois.

(2) WELL LOG TO BE FILED

The Mining Board shall require any owner or manager, as defined by the Act, of any well drilled for oil or gas, to file a log of strata encountered in said well and also an electric log, if one has been made, and time log if requested, in the office of the State Geological Survey, Division of the Department of Registration and Education, Urbana, Illinois, within three (3) months after the completion of said well.

(3) CONTENTS OF WELL LOG

Such logs shall show:

(A) The name, number, location and elevation of the well in accordance with the description required by the Mining Board in the application for the permit to drill such well;

(B) The name, character, depth and the thickness of the formations passed through or encountered in the drilling of such well and the depth and thickness of each oil-, gas-, or water-bearing formation or strata encountered;

(C) The depth and thickness of coal beds and deposits of mineral materials of economic value;

(D) The results on completion, whether the well was dry or productive of oil or gas, and if productive, the initial production;

(E) If fresh water has been encountered, the approximate capacity;

(F) The elevation above mean sea level of the point from which the depth measurements are made, stating its height above ground level at the well.

The correctness of the log shall be subscribed and sworn to before a notary public, that the statements contained therein are true.

When requested in writing by the owner, any or all information contained in any such log hereby required will be kept confidential until released in writing by the owner thereof or his legal representatives after its lodgment in the office of the State Geological Survey; however, no such information shall be kept confidential for more than one (1) year from the date of issue of the drilling permit for the particular well.

(4) COLLECTION OF DRILL CUTTINGS

As provided by the Act, the Mining Board shall notify the person or persons to whom any permit is issued, at the time of the issuance thereof, either to collect or not to collect for the State Geological Survey, drill cuttings representing each run drilled in cable tool wells and each ten (10) feet of distance drilled and drilling time in rotary wells. When so notified by the Mining Board to collect such cuttings hereby required, the permittee shall obtain containers for such cuttings, and information as to the approved method of collecting drill cuttings from the State Geological Survey, Urbana, Illinois.

RULE VI

IDENTIFICATION OF LEASES AND TRANSFER OF MANAGEMENT

(1) LEASE AND WELL IDENTIFICATION

To identify all producing leases the owner or manager thereof shall cause a sign to be placed where the principal lease road enters the lease and such sign shall show the name of the lease and the owner or manager thereof and the section, township and range.

A legible numeral shall be attached or painted on pumping unit or jack of each well or a legible sign placed near the well to identify the well number.

(2) TRANSFER OF MANAGEMENT

The Mining Board shall be notified within ten (10) days after the transfer of each change of management of a producing oil and gas leasehold estate or fee production.

RULE VII

WASTE PROHIBITED

(1) AVOIDABLE WASTE OF GAS

In drilling any well, if a gas sand or stratum is penetrated, the hole must not be left open so that an avoidable escape of gas, which in the opinion of the Mining Board constitutes waste, will occur during further drilling in or through such stratum or during temporary abandonment of the well. The Mining Board may require mud-laden fluid to be applied, or the gas stratum cased off, or any suitable method adopted which will arrest such escape of gas.

Gas produced in connection with the production of oil shall be burned in flares where there is no market at the well for escaping gas. The operators of casinghead gas plants operated for the extraction of liquid hydrocarbons from the gas shall burn the residue gas in flares when no market exists at such plant for the residue gas or when the gas is not returned to an oil pool or field for pressure maintenance or repressuring of the oil pool or field.

(2) ESCAPE OF UNBURNED GAS PROHIBITED

The escape of unburned gas from any well into the air or atmosphere is hereby prohibited. All such surplus gas, not otherwise utilized, shall be burned at a safe distance from any well, storage tank or building.

(3) BURN-OFF PITS

To prevent fire hazards and waste from waste oil, the same shall be collected in burn-off pits which shall be located a safe distance from oil storage tanks, buildings, or other structures, and shall be

burned as often as necessary to prevent overflowing. Such pits shall be constructed to prevent the escape of oil therefrom, and shall have a continuous wall completely surrounding the pit of sufficient height above the surface to prevent surface water from running into the pit. Earthen pits will be permitted at locations where the soil is heavy and tight, but shall be prohibited in locations where the soil is porous and closely underlaid by either gravel or sand strata.

(4) LEASE TANK RESERVOIRS

When it is deemed necessary by the Mining Board to protect life, health or property, the Mining Board may require any lease or oil storage tanks to be surrounded by an earthen dike which shall have a capacity of one and one-half ($1\frac{1}{2}$) times the capacity of the tank or tanks it surrounds, which dike shall be continually maintained; and the reservoir within shall be kept free from vegetation, water or oil.

(5) FIRE HAZARDS AT WELL LOCATIONS

All well and tank locations shall be kept free of dead grass, brush, weeds and other inflammable material and so maintained at all times.

RULE VIII

PROTECTION OF WORKABLE COAL BEDS

To prevent waste, the Mining Board shall protect workable coal beds in the drilling, casing, and plugging of wells drilled for oil or gas, or for any other purpose in connection therewith.

(1) WORKABLE COAL BEDS DEFINED

All coal beds or seams thirty (30) inches or more in thickness less than one thousand (1000) feet below the surface shall be determined as workable. When any well drilled for oil or gas, or to be used in connection therewith, penetrates such coal seams or ceases to be used for the purpose drilled, such coal seams shall be protected as herein provided.

(2) MINING BOARD MAY DETERMINE PRESENCE OF COAL SEAMS

The Mining Board shall have authority to determine when workable coal beds or seams are present, by geological data obtained from the State Geological Survey, or other relevant information which would indicate the presence of workable coal beds or seams underlying the well site.

When the presence of any coal strata or seam is disputed by the owner or manager of a well, and such condition is contrary to the geological information possessed by the Mining Board, such contention of the owner or manager shall be supported by an affidavit on a form prescribed and furnished by the Mining Board, which affidavit shall be executed by a geologist or other person qualified and competent to determine the presence of such disputed coal strata or seam. When such affidavit has been filed with the Mining Board, it shall have au-

thority to determine the issue, after obtaining all further geological information possible, or if the Mining Board deems expedient, it may on its own motion, call a hearing to be held as herein provided to determine such facts.

(3) WELL LOCATIONS PROHIBITED

No well for oil or gas shall be drilled within two hundred fifty (250) feet from any opening of an active coal mine used as a means of ingress or egress for the persons employed in such mine, or which is used as an air shaft, except by mutual agreement between the person owning or operating the mine and the oil or gas operator.

(4) NOTICE TO MINING BOARD

At least twenty-four (24) hours prior to reaching the depth of mine workings or the undeveloped limits of the mine, the person in charge of drilling operations shall notify the Mining Board or Mining Board Representative and the mine representative of the time when such well shall reach such point, in order that the Mining Board may have a Mining Board Representative present on the well site at such time.

(5) CASING AND PROTECTIVE WORK

Whenever the Rules and Regulations require a mine string to be set in a mine area, the casing used inside the mine string shall be new.

Any protective work required in a mine area shall be under the supervision of the Mining Board.

(6) OPERATIONAL REQUIREMENTS OVER ACTIVE MINE

(A) MINING BOARD TO DETERMINE SAFETY FACTORS

No well shall be drilled into any coal mine or mine workings in any active mine until the Min-

ing Board Representative is present and determines that the mine or mine workings are safe.

Until the Mining Board Representative is satisfied that adequate protection has been provided so that no hazard exists, drilling operations shall be suspended. After any protective or corrective work, required by the Mining Board Representative, has been satisfactorily completed by the well owner, manager or his representative, drilling operations may be ordered resumed; but if in the opinion of the Mining Board Representative it is impossible to adequately protect the mine or mine workings, he shall order the permit revoked and the well plugged in the manner hereinafter provided.

(B) DRILLING METHODS AND PROCEDURE

(1) GENERAL

All wells drilled through an active coal mine or through an abandoned portion of an active mine shall be located if possible in order to pass through an adequate pillar.

(2) MINE PROTECTIVE STRING

Whether drilled through a pillar or not, a mine string of casing of good quality shall be set to protect the mine. The mine string shall be treated with a heavy impervious coating of asphalt, plastic, or other acid-resisting material from fifty (50) feet above the mine roof to a point fifty (50) feet below the mine floor or base of coal seam.

The outside diameter of the mine string shall be at least four (4) inches smaller than the diameter of the well bore and equipped with centralizers or similar mechanical device above and below the coal seam. The mine string shall be set at an approximate depth of fifty

(50) feet below the base of the coal seam and cemented from the casing seat to the surface.

If the mine string misses a pillar and is set through an open room of an active mine or the abandoned portion of an active mine, an umbrella, basket, or packer must be used on the mine string to set above the mine roof and the mine string shall be cemented from the casing seat to the mine floor and also cemented from the umbrella, basket, or packer set above the mine roof to the surface.

(3) CEMENTING OIL STRING

The outside diameter of the oil string shall be at least three (3) inches smaller than the inside diameter of the mine string when set through a pillar, and the outside diameter of the oil string shall be at least four (4) inches smaller than the mine string when set through an open room and equipped with centralizers, or similar mechanical devices, immediately above and below the coal seam. The centralizers shall be so spaced as to be within the mine string of casing.

The oil string shall be surrounded with cement from the casing shoe to the surface, or the oil string may be cemented using multiple-stage cementing tools, as hereinafter provided.

When the multiple-stage cementing method is used, at least one hundred (100) sacks of cement shall be placed around the casing shoe and the multiple-stage cementing tool placed one hundred (100) feet below the floor of the mine and cemented from that point to the surface.

In areas where thief zones or high permeability horizons occur below the level of the mine, the Mining Board may require multiple-stage cementing tools to be used in the cementing of the oil string in order to assure protection for the mine.

(4) TEMPERATURE SURVEY REQUIRED

When drilling through mined out areas which are not accessible, and, if, in the opinion of the Mining Board representative, it is necessary, a self-registering thermometer shall be lowered to the mined out level, and if the recorded temperature shows the possibility of fire at or near the position of the hole, the drilling permit shall be revoked and the hole plugged, as herein required.

(C) SHOOTING WELLS OVER ACTIVE MINES OR WORKED OUT PORTIONS OF ACTIVE MINES

(1) SHOT LESS THAN FIFTY (50) QUARTS

When any well is located over or penetrates an active mine or worked out portions of an active mine, before shooting the oil-bearing formation, the well owner or manager shall proceed as follows:

- (a) Notify the Mining Board or Mining Board Representative at least twenty-four (24) hours in advance of the time the shot is to be fired.
- (b) Notify the mining company at least twenty-four (24) hours in advance of the time the shot is to be fired.
- (c) Tamp the shot with a minimum of sixty (60) feet of tamp, at least the top thirty (30) feet of which shall be of impervious material, being sure that the top of the tamp extends to a place in the hole opposite solid rock formation. Fill the hole to the top with fluid of consistent viscosity and specific gravity.

(2) SHOT EXCEEDING FIFTY (50) QUARTS

When the charge exceeds fifty (50) quarts of nitroglycerin :

- (a) Apply to the Mining Board for permission to shoot, indicating the size of charge to be used.
- (b) In the absence of written authority from the coal company for the specific shot, the Mining Board shall :
 - (1) Immediately upon receipt of application notify the coal company indicating location of well and size of charge to be used.
 - (2) If no objection is filed by the coal company within twenty-four (24) hours, the Mining Board shall give permission to fire the shot.
 - (3) If coal company objects, the Mining Board shall, within twenty-four (24) hours of receipt of said objection set matter for hearing and determination in county where well is located.
- (c) Extend the tamp with impervious material ten (10) feet beyond the minimum tamp of sixty (60) feet for each additional ten (10) quarts of charge used, being sure that the top of the tamp extends to a place in the hole opposite solid rock formation. Fill the hole to the top with fluid of consistent viscosity and specific gravity.

RULE IX

DISPOSAL OF SALT WATER OR OTHER LIQUIDS TO PREVENT WASTE AS DEFINED IN THE ACT

To prevent waste, no person shall dispose of salt water or other waste liquids except in the following manner. Any other method of disposal is hereby prohibited.

(1) MINING BOARD SUPERVISION

When salt water or other waste liquid is not properly impounded or is being improperly disposed of, the Mining Board shall order such improper condition corrected when it is determined that the disposal method used pollutes fresh water supplies, creates a hazard, or is injurious to life, health or property.

(2) DISPOSAL IN UNDERGROUND STRATUM

Salt water or other waste liquids may be disposed of into an underground formation or strata after a permit to do so has been procured from the Mining Board as hereinbefore provided. The Mining Board shall have authority to designate and approve the stratum into which such liquids shall be disposed of, also the protective work necessary to confine such liquids to the intended stratum. All such work shall be executed under the supervision of a Mining Board Representative and shall conform to the requirements imposed in granting the permit therefor.

(3) DISPOSAL IN EARTHEN PITS

Salt water or other waste liquids may also be disposed of by evaporation when impounded in

excavated earthen pits, which may only be used for such purpose when the pit is underlaid by tight soil such as heavy clay or hardpan.

Where the soil under the pit is porous and closely underlaid by a gravel or sand stratum, impounding of salt water or other waste liquids in such earthen pits is hereby prohibited. When such liquids are impounded in an earthen pit, it shall be so constructed and maintained as to prevent escape of such liquids therefrom.

The Mining Board shall have authority to condemn any pit which does not properly impound such liquids and order the disposal of such liquids into an underground formation, as herein provided.

The level of salt water or other waste liquids in earthen pits shall at no time be permitted to rise above the lowest point of the ground surface level. All pits shall have a continuous embankment surrounding them sufficiently above the level of the surface to prevent surface water from running into the pit. Such embankment shall not be used to impound salt water or other waste liquids.

At no time shall salt water or other waste liquids impounded in earthen pits be allowed to escape over adjacent lands or into streams.

(4) PIPES TO BE KEPT IN REPAIR

A pipe conveying such liquids to any salt water disposal well or pit shall be kept in good repair and free from leaks, and no outlet valve will be permitted in such pipe between the place of origin and discharge.

RULE X

VACUUM

The use of vacuum pumps or other devices for creating a vacuum on any oil- or gas-producing stratum is hereby prohibited until the owner or manager has complied with the following requirements :

(1) APPLICATION FOR USE OF VACUUM

On or before the date of filing an application by letter for the use of vacuum on any leasehold, the applicant shall notify, by registered mail, all other persons owning or managing producing oil or gas wells located within one-half ($\frac{1}{2}$) mile radius of the well or wells where the use of vacuum is proposed, and shall set out in the notice the proposed strata or formation and exact location of the well or wells to be affected by the application or use of such vacuum. The applicant shall submit proof of such notice with the application, giving the names and addresses of all well owners or managers within such one-half ($\frac{1}{2}$) mile radius.

(2) NOTICE AND HEARING ON APPLICATION

On receipt of such application and proof of notice, the Mining Board shall hold the same for ten (10) days pending the filing of objections, and if none is received at the end of such period, the application may be approved by the Mining Board.

In event objection is made by the owner or manager of any well or wells producing from the same formation, which are located within one-half ($\frac{1}{2}$) mile radius of the proposed vacuum installation, and the Mining Board deems a hearing shall be had,

notice shall be given to each objector and the applicant, of the time and place designated by the Mining Board for such hearing.

(3) MINING BOARD AUTHORITY

The Mining Board shall have authority after notice and hearing to prohibit vacuum or to deny or revoke permission for the use of vacuum when, in its judgment, there is danger of underground waste.

The Mining Board shall have authority to grant permission when it believes a further recovery of oil can be obtained by use of vacuum without danger of underground waste.

RULE XI

PLUGGING OF WELLS

As provided by the Act, as amended, and to prevent waste as therein defined, any owner or manager who owns, has drilled, or has acquired a nonproductive well drilled for oil or gas, or for any other purpose in connection with the exploration and production of the same, including unused input wells, salt water disposal wells, and geological or structure test holes drilled below the glacial drift, shall be required by the Mining Board to securely plug and abandon such well in the manner herein provided, except when an extension of time has been granted by the Mining Board in writing.

(1) MINING BOARD SUPERVISION

The plugging and abandoning of wells and the consequent pulling of casing or the partial plugging back operations from one formation to another shall be under the supervision of the Mining Board and the Mining Board Representative. The Mining Board shall have authority to prohibit the plugging of a well when the equipment used is not adequate or is insufficient, in the opinion of the Mining Board, to perform the abandonment according to the Rules and Regulations.

When the casing in any well is not the property of the person owning the well, the owner of such casing is prohibited from pulling the same until he has notified a Mining Board Representative, and then shall securely plug such well under the supervision of the Mining Board in the same manner as the owner of the well is herein required.

(2) WHEN WELL TO BE PLUGGED

The owner or manager shall not permit any well drilled for oil, gas, salt water disposal or any other

purpose in connection with the production of oil and gas, to remain unplugged after such well is no longer used for the purpose for which it was drilled or converted.

(3) PRIOR NOTICE TO MINING BOARD REPRESENTATIVE

When the owner or manager of any inactive, nonproductive or nonoperative well desires to plug such well or partially plug back to a different formation or to withdraw casing from such well, he shall notify a Mining Board Representative and, if in an active coal mine area, notify the owner or operator of such coal mine at least eight (8) hours in advance of the time he expects to begin plugging or pulling casing. The commencement of such operations, including shooting off casing, is prohibited until an authorized Mining Board Representative is present.

(4) OWNER TO FURNISH WELL LOG

Upon arrival of the Mining Board Representative at the site of the well to be plugged or partially plugged back to a different formation, the owner or manager of the well, or his representative, shall make available to the Mining Board Representative a complete log of the well, which shall show the character and depth of all formations encountered in the drilling of such well, particularly showing the depth and thickness of all oil-bearing strata, gas-bearing strata, water-bearing strata, and workable coal beds.

When no log is furnished by the owner, the Mining Board may require the well to be filled with cement from bottom to top, or the Mining Board may require it to be plugged in accordance with the knowledge of logs of nearby wells.

(5) PLUGGING METHODS AND PROCEDURES

(A) GENERALLY

A cement plug to protect the producing formation must be placed opposite the producing formation and extend to a point twenty (20) feet above the top of said producing formation. In cases where the history of the well shows that heavy or repeated shots in a sandstone formation, or heavy or repeated acidization in a limestone formation, render it probable that a large cavity exists within the producing formation, it is permissible to fill such cavity with sand, crushed rock, or other suitable material approved by the Mining Board in order to provide an anchor on which to place a cement plug not less than twenty (20) feet in length above the top of such producing formation. A cement plug is to be placed below the casing seat of the oil string and extend to a point twenty (20) feet above said seat and if there is a liner that is not to be withdrawn, said cement plug shall be placed at the top of the liner and extend to a point twenty (20) feet above.

No sand, gravel, or other foreign substance shall be mixed in the slurry; however, the use of an admixture of special mud materials may be used, subject to the approval of the Mining Board Representative.

(B) PROTECTION OF COAL SEAMS

Each coal seam of thirty (30) inches or more of thickness and lying above the depth of one thousand (1000) feet shall be protected by a cement plug extending one hundred (100) feet above said coal seam to a distance of fifty (50) feet below the same or to the bottom of the hole, whichever is less.

In wells penetrating an active mine or the worked out area of a mine or the undeveloped

limits of a mine property having workable coal seam or seams, a substantial support shall be provided for each cement plug required for coal seam protection. The supporting plug shall consist of wood or other suitable material having adequate strength and shall be set and tested to determine that settlement or a movement of the cement plug will not take place during the period required for the setting of the cement.

(C) SHOOTING CASING IN ROTARY HOLE

In wells originally drilled by rotary tools, before any casing is shot off or otherwise parted at a point above the casing shoe, the hole must be filled with properly prepared mud of not less than thirty-eight (38) viscosity, or other suitable material, to the point of parting. After the casing is parted and withdrawn, the hole must be completely filled with mud.

A cement plug twenty-five (25) feet in length shall be placed ten (10) feet below the base of the surface casing and extend to a point at least fifteen (15) feet above the base of surface casing. The remainder of the hole shall be filled with mud.

The surface casing shall be cut off three (3) feet below the surface of the ground and a mushroomed cement cap of approximately one (1) foot in thickness shall be placed over the casing so that the top of the mushroomed cap is at least two (2) feet below the surface of the ground. The hole shall then be filled with dirt and the surface of the ground leveled.

In the event that surface casing has not been used, a cement plug shall be placed in the hole three (3) feet below the surface to a depth of twenty-five (25) feet. A mushroomed cement cap of approximately one (1) foot in thickness shall be placed over the top of the hole so that the top of the mushroomed cap is at least two

(2) feet below the surface of the ground. The hole shall then be filled with dirt and the surface of the ground leveled.

These provisions shall not exclude the placing of cement in the producing formation or opposite workable coal seams as herein provided. The surface casing of such wells shall not be withdrawn.

(D) IN WELLS DRILLED WITH CABLE TOOLS

In wells drilled and completed by cable tools, the producing formations and all workable coal seams must be protected as heretofore provided. As each string of casing is picked up or parted, it shall be raised one joint, and then approximately one-fourth ($\frac{1}{4}$) yard of native clay or mud dropped down the casing and allowed to settle below the base of casing.

When pulling casing from wells where caving occurs which partially fills the well bore the remainder of the hole shall be plugged as herein provided.

In such cases and also in wells where formation or walls of the hole do not cave, the hole shall be filled to within twenty-five (25) feet of the surface with native clay or Bentonitic materials.

In areas where in the drilling of the well it was necessary to drive pipe for the outside string in order to prevent caving or to protect fresh water horizons or formations, this drive pipe shall be left in place and not removed.

Where drive pipe is used it shall be cut off three (3) feet below the surface of the ground and a twenty-five (25) foot cement plug run inside the drive pipe and anchored thereto.

Where surface casing has been pulled, a cement plug shall be placed at a point three (3) feet

below the surface to a depth of twenty-five (25) feet.

In either event where drive pipe is used or the surface casing has been pulled, a mushroomed cement cap of approximately one (1) foot in thickness shall be placed at a point three (3) feet below the surface of the ground and allowed to mushroom until the diameter of the cement plug is at least three (3) times the diameter of the hole drilled, then the hole shall be filled with dirt and the surface of the ground leveled.

(E) WHEN CASING LEFT IN HOLE

In wells where casing is not removed when wells are abandoned, the plugging operation shall be done in the same manner as provided for abandoning wells where casing is withdrawn.

(F) FOREIGN MATERIAL PROHIBITED

No person shall knowingly or purposely place or lodge any foreign material or substance in an unplugged well which will either fill or bridge such hole.

When foreign material has been knowingly or purposely placed in the hole the Mining Board may require such material to be removed before plugging operations are commenced.

(G) PLUGGING BRIDGED HOLE

When in normal production or drilling operations the hole becomes plugged or obstructed because of loss of drilling tools or producing equipment which it would be impractical or impossible to remove, special consideration shall be allowed and the well shall be plugged as nearly to the aforementioned requirements as existing circumstances will permit. The exact method of plugging and the equipment lost shall be shown on the plugging affidavit.

(6) CONVERTING TO WATER WELL

When the fee owner of the surface desires to utilize a well to be abandoned for fresh water purposes, such well need not be filled above the fresh water strata or bed, but a twenty-five-foot (25) cement plug shall be placed immediately below such fresh water bed, provided, however, written authority for such use is secured from the fee owner who shall also sign and file with the Mining Board a release form furnished by the Mining Board, thereby releasing the owner, manager, or operator from all responsibility and statutory or other requirements for the further plugging of said well.

(7) RESTORATION OF SURFACE

The owner or manager shall, as soon as weather or ground conditions permit, upon the final abandonment and completion of the plugging of any well, clear the area around the location of all refuse material, burn waste oil, drain and fill all excavations, remove concrete bases, machinery and materials, and level the surface to leave the site as nearly as possible in the condition encountered when operations were commenced.

When the fee owner of the surface desires to utilize the pits dug in connection therewith, the fee owner shall sign and file with the Mining Board a release form furnished by the Mining Board, thereby releasing the owner, manager, or operator from all responsibility and statutory or other requirements for the further filling of the pits.

(8) EXTENSION OF TIME TO PLUG WELL

Upon written application for an extension of time to defer the plugging and abandonment of any unplugged well, the Mining Board, at its discretion, may grant such extension for a reasonable period of time when good cause can be shown by the person making the application, and provid-

ing the casing is all left in the well and is in sound condition. If water was encountered which will flood oil-bearing formations exposed in the open hole, the water-bearing formation below the casing seat shall be plugged off with cement. The top of the casing shall be securely capped.

If no bond covering such well is then in effect, a bond shall be given before the extension is granted, and such bond shall remain in full force and effect until the well is plugged and the other requirements of final abandonment have been completed.

At the expiration of any extension granted, the well shall be plugged and abandoned if a further extension is denied by the Mining Board.

(9) FILING PLUGGING AFFIDAVIT

Immediately after the plugging of any well has been accomplished, an affidavit shall be executed in duplicate and jointly signed by the owner or manager or his representative and the Mining Board Representative who supervised the plugging operation. The plugging affidavit, in duplicate, on a form furnished by the Mining Board, shall be filed in the office of the Oil and Gas Division of the Department of Mines and Minerals at Springfield, Illinois.

RULE XII

VALIDITY OF RULES AND REGULATIONS

In case any word, phrase, sentence, or other portion of these Rules and Regulations shall hereafter be declared invalid, such invalidity shall not affect the remaining portions and parts of the Rules and Regulations adopted or promulgated by the Department.

All former Rules and Regulations heretofore adopted by the Department are replaced and superseded by these Rules and Regulations upon their adoption by the Mining Board.

MINING BOARD FORMS

- Form OG 10-A Rev.—Application for Authorization to Drill, Deepen or Convert a Well.
- Form OG-2—Revised—Application for Salt Water Disposal Well.
- Form OG-3 Revised—Application for Gas or Water Input Well For Secondary Recovery.
- Surety Bond Form—For Individual Well or Blanket Bond.
- Cash Bond Form—For Individual Well or Blanket Bond.
- Suggested Form—Power of Attorney.
- Post Card—Notice of Well Completion.
- Form of—Release signed by landowner releasing operator of responsibility for filling pits.
- Form of—Release signed by landowner releasing operator where top portion of well bore left unplugged for use as fresh water well.
- Form for—Request to Cancel Bond.
- Form of—Statement of Ownership.
- Application Card—For Permit to Drill Water Well.

Not Distributed to Public:

- Form O.G. 6—Well Plugging Affidavit.
- Form for—Notice of Violation.
- Form for—Cancellation of Bond.



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1961

STATE OF ILLINOIS
OTTO KERNER, Governor



AN ACT IN RELATION TO OIL,
GAS, COAL AND OTHER
SURFACE AND UNDERGROUND
RESOURCES
and
RULES AND REGULATIONS

DEPARTMENT OF MINES & MINERALS
L. L. RUFF, Director

DIVISION OF OIL AND GAS
GEORGE R. LANE, Petroleum Engineer

(Printed by Authority of the State of Illinois)

REVISED EDITION

1961

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UNIVERSITY OF ILLINOIS

STATE OF ILLINOIS
OTTO KERNER, Governor



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I N D E X

	Page
OIL, GAS and COAL ACT.....	2-21
RULES and REGULATIONS.....	22-78

RULE I

GENERAL PROVISIONS	23-29
Definitions	23-25
Prevention of Waste	25-26
Jurisdiction	26
Enforcement of Act	26
Delegation of Authority	26
Right of Inspection.....	26-27
Right of Access	27
Sworn Statements	27
Additional Reports	27-28
When Rules and Regulations Become Effective.....	28
Notice of Rules and Regulations.....	28
Forms	28
Hearings—Notice	28-29
Public Hearings	28-29
Publisher's Certificate	29
Other Hearings	29

RULE II

PERMITS	30-39
Application to be Filed.....	30
Copy of Evidence of Ownership to be Attached.....	30-31
When Permit to be Issued.....	31
Permit Issued to Owner or Manager.....	31
Permit Posted at Well Site.....	31
Authority to Deny Permit.....	31
Permits Not Transferable	31
Application for Permit to Drill or Deepen Well.....	32-35
Requirements	32
Drill Out or Deepen Plugged Well.....	32
Contents of Application	32-33
Fee	33
Expiration of Permit	33-34
Change of Location	34
Directional Drilling	34-35
Application for Permit for Geological or Structural Test Hole	35
Permits for Salt Water Disposal or for Gas, Air, Water, or Other Liquid Input Wells.....	35-37
Requirements for Permit	35-36
Notice to Other Owners or Managers.....	36
Authority to Deny Permit	37
Authority to Suspend Operations.....	37
Fee	37
Permit Requirements in Mine Areas.....	37-39
For Well Penetrating Mine.....	37-38
Agreement With Mine Owner.....	38
Requirements in Absence of Agreement.....	38
Requirements in Inactive Mining Areas.....	38-39
Notice to Mine Owner.....	39
Maps Available at Well Site.....	39

RULE III

	Page
BONDS	40-42
When Bonds Required—Amount.....	40
Kind of Bond—Execution	40-41
Surety or Cash Bond.....	40
Personal Bond	40-41
Execution of Bond	41
Bond of Manager	41
Bond Form—Approval	41
Surety May Cancel Bond.....	41-42
Requirements Before Bond May Be Canceled.....	42
Mining Board May Cancel Bond.....	42
Casing Puller's Bond	42

RULE IV

SPACING OF WELLS	43-53
General Spacing Rules	43-50
Wells Drilled or Deepened to a Pool the Top of which is less than 4,000 feet beneath the surface..	43-44
Wells Drilled or Deepened to a Pool the Top of which is 4,000 feet or more beneath the surface..	44-47
Separately Owned Tracts Within Drilling Unit....	47-48
Twin Wells	48
Wells Within Corporate Limits	48-49
Exceptions	49-50
Secondary Recovery	51-53
Pattern Flood	51
Other Floods	52
Record to be Kept	52-53
Nonconforming Well to be Plugged.....	53

RULE V

FILING OF LOGS AND WELL INFORMATION.....	54-55
Return of Completion Card	54
Well Log to be Filed.....	54
Contents of Well Log	54-55
Collection of Drill Cuttings.....	55

RULE VI

IDENTIFICATION OF LEASES AND TRANSFER OF MANAGEMENT	56
Lease and Well Identification.....	56
Transfer of Management	56

RULE VII

WASTE PROHIBITED	57-58
Avoidable Waste of Gas.....	57
Escape of Unburned Gas Prohibited.....	57
Burn-off Pits	57-58
Lease Tank Reservoirs	58
Fire Hazards at Well Locations.....	58

RULE VIII

PROTECTION OF WORKABLE COAL BEDS.....	59-64
Workable Coal Beds Defined	59
Mining Board May Determine Presence of Coal Seams..	59-60
Well Locations Prohibited	60
Notice to Mining Board	60

	Page
Casing and Protective Work	60
Operational Requirements Over Active Mine.....	60-64
Mining Board to Determine Safety Factors.....	60-61
Drilling Methods and Procedure.....	61-63
General	61
Mine Protective String	61-62
Cementing Oil String	62
Temperature Survey Required	63
Shooting Wells Over Active Mines or Worked Out	
Portions of Active Mines	63-64
Shot Less Than Fifty Quarts.....	63
Shot Exceeding Fifty Quarts.....	64

RULE IX

DISPOSAL OF SALT WATER OR OTHER LIQUIDS	
TO PREVENT WASTE AS DEFINED IN THE ACT.....	65-66
Mining Board Supervision.....	65
Disposal in Underground Stratum.....	65
Disposal in Earthen Pits	65-66
Pipes to be Kept in Repair.....	66

RULE X

VACUUM	67-68
Application for Use of Vacuum.....	67
Notice and Hearing on Application.....	67-68
Mining Board Authority.....	68

RULE XI

PLUGGING OF WELLS	69-76
Mining Board Supervision.....	69
When Well to be Plugged.....	69-70
Prior Notice to Mining Board Representative.....	70
Owner to Furnish Well Log.....	70
Plugging Methods and Procedures.....	71-74
Generally	71
Protection of Coal Seams.....	71-72
Shooting Casing in Rotary Hole.....	72-73
In Wells Drilled with Cable Tools.....	73-74
When Casing Left in Hole.....	74
Foreign Material Prohibited	74
Plugging Bridged Hole	74
Converting to Water Well	75
Restoration of Surface	75
Extension of Time to Plug Well.....	75-76
Filing Plugging Affidavit	76

RULE XII

VALIDITY OF RULES AND REGULATIONS.....	77
MINING BOARD FORMS.....	78

“An Act in relation to oil, gas, coal and other surface and underground resources.”

BE IT ENACTED BY THE PEOPLE OF THE STATE OF ILLINOIS, REPRESENTED IN THE GENERAL ASSEMBLY:

Sec. 1. Unless the context otherwise requires, the words defined in this Section have the following meanings as used in this Act.

“Person” means any natural person, corporation, association, partnership, receiver, trustee, guardian, executor, administrator, fiduciary or representative of any kind.

“Oil” means natural crude oil or petroleum and other hydrocarbons, regardless of gravity, which are produced at the well in liquid form by ordinary production methods or by the use of an oil and gas separator and which are not the result of condensation of gas after it leaves the underground reservoir.

“Gas” means all natural gas, including casing-head gas, and all other natural hydrocarbons not defined above as oil.

“Pool” means a natural, underground reservoir containing, in whole or in part, a natural accumulation of oil or gas, or both. Each productive zone or stratum of a general structure, which is completely separated from any other zone or stratum in the structure, is deemed a separate “pool” as used herein.

“Field” means the same general surface area which is underlaid or appears to be underlaid by one or more pools.

“Owner” means the person who has the right to drill into and produce from any pool, and to appropriate the production either for himself or for himself and another, or others.

“Manager” means the operator, whether the owner or not, of a well or wells drilled for oil or gas, or both.

“Department” means the Department of Mines and Minerals. “Director” means the Director of the Department of Mines and Minerals.

“Mining Board” means the State Mining Board in the Department of Mines and Minerals.

“Waste” means “physical waste” as that term is generally understood in the oil and gas industry; and further includes:

(1) the locating, drilling and producing of any oil or gas well or wells drilled contrary to the valid order, rules and regulations adopted by the Mining Board under the provisions of this Act.

(2) permitting the migration of oil, gas, or water from the stratum in which it is found, into other strata, thereby ultimately resulting in the loss of recoverable oil, gas, or both;

(3) the drowning with water of any stratum or part thereof capable of producing oil or gas, except for secondary recovery purposes;

(4) the unreasonable damage to underground, fresh or mineral water supply, workable coal seams, or other mineral deposits in the operations for the discovery, development, production, or handling of oil and gas;

(5) the unnecessary or excessive surface loss or destruction of oil or gas resulting from evaporation, seepage, leakage or fire, especially such loss or destruction incident to or resulting from the escape of gas into the open air, provided, however, it shall not be unlawful for the operator or owner of any well producing both oil and gas to burn such gas in flares when such gas is, pursuant to the other provisions of this Act, lawfully produced, and where there is no market at the well for such escaping gas; and where the same is used for the extraction of casinghead gas, it shall not be unlawful for the operator of the plant after the process of extraction is completed, to burn such

residue in flares when there is no market at such plant for such residue gas;

(6) permitting unnecessary fire hazards;

(7) permitting unnecessary damage to or destruction of the surface, soil, animal, fish or aquatic life or property from oil or gas operations.

“Drilling Unit” means the surface area allocated by an order or regulation of the Mining Board to the drilling of a single well for the production of oil or gas from an individual pool.

Sec. 1.1. Waste as defined by this Act is prohibited.

Sec. 1.2. The Oil and Gas Board, in the Department of Mines and Minerals, shall be subject to call of the Mining Board for advice and consultation concerning:

1. The interpretation of rules, regulations, and laws affecting the conservation of oil and gas.

2. The promulgation of new rules and regulations pertaining to the conservation of oil and gas.

3. Technical information and operations concerning the improvement of methods, conditions, and equipment for the production of oil and gas.

4. The proper drilling, casing and plugging of oil wells.

5. The issuing of proper permits to drill oil and gas wells.

6. Any and all other subjects about which the Mining Board should seek information in relation to the oil and gas industry, except in situations involving drilling or operations through veins or seams of mineable coal, in which situations the entire authority and discretion shall remain in the Mining Board.

Sec. 2. The provisions of this Act shall not apply to mine or quarry drill or blast holes, nor to seismograph test holes, or to holes drilled to explore strippable coal.

The provisions of this Act shall not apply to geological or structure test holes, except that notification of intent to drill shall be filed with the Min-

ing Board, and permit shall be obtained as provided in clause (2) of Section 6 of this Act and except that all geological or structure test holes drilled below the glacial drift shall be plugged under the supervision of the Mining Board.

All wells drilled for water, except those which penetrate the subsurface below the glacial drift, are excepted from the provisions of this Act.

Sec. 3. The Mining Board shall be charged with the duty of enforcing this Act and all rules, regulations and orders promulgated in pursuance of this Act.

The Mining Board may authorize, in writing, any employee of the Department, qualified by training and experience, to perform in the Board's stead the powers and duties set forth in this Act, which do not require the exercise of administrative discretion.

Sec. 4. The Mining Board shall have jurisdiction and authority over all persons and property necessary to enforce effectively the provisions of this Act.

Sec. 5. The Mining Board shall have the authority and it shall be its duty, to employ all necessary personnel to carry out the provisions of this Act; to fix their compensation; to designate their headquarters and to define their duties. The aforesaid personnel shall be subject to the provisions of the "Personnel Code," enacted by the 69th General Assembly.

Sec. 6. The Mining Board shall have the authority to call hearings, to make, after hearing and notice as hereinafter provided, such reasonable rules, regulations, and orders as may be necessary from time to time in the proper administration and enforcement of this Act, including Rules, Regulations and Orders for the following purposes: (1) to require the drilling, casing and plugging of wells to be done in such a manner as to prevent the migration of oil or gas from one stratum to another; to prevent the intrusion of water into oil, gas or coal strata; to prevent the pollution of fresh water supplies by

oil, gas or salt water, (2) to require the person desiring or proposing to drill any well in search of oil or gas, before commencing the drilling of any such well, to make application to the Mining Board upon such form as the Mining Board may prescribe and to comply with the following provisions, viz: The drilling of any well is hereby prohibited until such application is made and the applicant is entitled to a permit therefor as provided by this Act; each application for a well permit shall indicate the exact location of such well, the name and address of the manager, operator, contractor, driller, or any other person responsible for the conduct of drilling operations, the proposed depth of the well, and such other relevant information not involving ownership as the Mining Board may deem necessary or convenient to effectuate the purposes of this Act; each applicant previous to drilling for oil or gas or any other purpose in connection therewith, and each manager or operator who has acquired or may hereafter acquire any well drilled for these purposes which has not theretofore been plugged and abandoned in accordance with the laws, rules, regulations and orders of the Mining Board, shall execute and file with the Mining Board a bond of \$1,000.00 for each of such wells, or in lieu thereof, a blanket bond in the sum of \$2,500.00 for all wells, provided that, nothing herein shall be construed to require more than one bond for such well at any one time, although successive bonds may be required until the well is abandoned and plugged; and each of such bonds shall be approved by the Mining Board on a form to be prescribed by the Mining Board, and shall provide for the compliance of plugging such well, or wells, the filling of all excavations, the removal of all concrete bases, discarded machinery and material, and restoring the surface as nearly as possible to its former condition before such well, or wells, was drilled; and such bond shall be renewed and be continued in effect until the aforesaid conditions

have been fully complied with. In event of the assignment and transfer of the property covered by any bond, it shall remain in full force and effect until the approval by the Mining Board of a similar bond which has been executed by the new owner and filed with it. (3) To require the filing of logs, including electric logs, and drilling records, and the lodgment in the office of the State Geological Survey of typical drill cuttings or cores, if cores are taken, within 30 days from the time of the completion of any well. (4) To prevent "blow-outs," "caving" and "seepage" in the same sense that conditions indicated by such terms are generally understood in the oil and gas business. (5) To prevent fires. (6) To ascertain and identify the ownership of all oil and gas wells, producing leases, refineries, tanks, plants, structures, and all storage and transportation equipment and facilities. (7) To regulate the secondary recovery in oil pools and oil fields. (8) To regulate or prohibit the use of vacuum. (9) To regulate the spacing of wells, the issuance of permits, and the establishment of drilling units. (10) To regulate directional drilling of oil or gas wells. (11) To regulate the plugging of wells. (12) To require that wells for which no logs or unsatisfactory logs are supplied shall be completely plugged with cement from bottom to top. (13) To require a description in such form as is determined by the Mining Board of the method of well plugging for each well, indicating the character of material used and the positions and dimensions of each plug. (14) To prohibit waste, as defined in this Act. (15) To require the furnishing of such relevant information as the Mining Board may from time to time deem necessary or convenient to carry into effect the purposes of this Act.

For the purposes of this Act, the State Geological Survey shall co-operate with the Mining Board in making available its scientific and technical information on the oil and gas resources of the State, and the Mining Board shall in turn furnish a copy

to the State Geological Survey of all drilling permits as issued, and such other drilling and operating data received or secured by the Mining Board which are pertinent to scientific research on the State's mineral resources.

Whenever rules, regulations or orders are mentioned in this Act, such terms have no application to any action by the Mining Board for the management of the internal affairs thereof.

Sec. 6.1. When the applicant has complied with all applicable provisions of this Act and the rules and regulations adopted by the Mining Board pursuant thereto concerning application for and the issuance of permits for the drilling of a well for oil or gas purposes upon a unit established under such rules, regulations and orders of the Mining Board, the Mining Board shall issue the permit.

Sec. 7. The Mining Board shall have the right at all times to go upon and inspect oil and gas properties from which oil or gas is being produced, or where drilling operations have been or are being conducted for the purpose of ascertaining whether the provisions of this Act and the Orders, Rules and Regulations made in pursuance of this Act are being complied with.

Sec. 8. The Mining Board shall have the authority and it shall be its duty to make such inquiries as it may think proper to determine whether or not waste, over which it has jurisdiction, exists or is imminent. In the exercise of such power the Mining Board shall have the authority to collect data; to make investigation and inspections; to examine properties, including drilling records and logs; to examine, check and test oil and gas wells; to hold hearings; and to take such action as may be reasonably necessary to enforce this Act.

Sec. 8A. The Mining Board shall have the power and authority to regulate the disposal of salt or sulphur-bearing water and any oil field waste produced in the operation of any oil or gas well, and

to adopt proper rules and regulations relative thereto.

Sec. 9. (a) The Mining Board shall prescribe rules of order for procedure in hearings or other proceedings before it under this Act. (b) No rule, regulation or order, including change, renewal or extension thereof, shall, in the absence of an emergency, be made by the Mining Board under the provisions of this Act except after a public hearing upon at least ten days' notice given in the manner and form as may be prescribed by the Mining Board. Such public hearing shall be held at such time, place and in such manner as may be prescribed by the Mining Board and any person having any interest in the subject matter of the hearing shall be entitled to be heard. (c) In the event an emergency is found to exist by the Mining Board which requires the making, changing, renewal, or extension of a Rule, Regulation or Order without first having a hearing, such emergency rule, regulation or order shall have the same validity as if a hearing with respect to the same had been held after due notice. The emergency rule, regulation or order permitted by this subsection shall remain in force no longer than fifteen days from its effective date, and, in any event, it shall expire when the rule, regulation or order made after due notice and hearing with respect to the subject matter of such emergency Rule, Regulation or Order becomes effective.

(d) All Rules, Regulations and Orders made by the Mining Board shall be in writing and shall be entered in full in a book to be kept for such purpose by the Mining Board, which shall be a public record and open to inspection at all times during reasonable office hours. A copy of such Rule, Regulation, or Order, certified by the executive officer of the Mining Board, shall be received in evidence in all courts of this State with the same effect as the original. (e) Any interested person shall have the right to have the Mining Board call a hearing for the purpose of taking action in respect to any

matter within its jurisdiction by making a request therefor in writing. Upon the receipt of any such request the Mining Board promptly shall call a hearing thereon, and, after such hearing, and with all convenient speed and in any event within thirty (30) days after the conclusion of such hearing, shall take such action with regard to the subject matter thereof as it may deem appropriate.

Sec. 10. Any interested person affected by this Act or by any Rule, Regulation or Order made or promulgated by the Mining Board hereunder, who may be dissatisfied therewith, shall have the right to file a suit in the Circuit Court of the county wherein is situated any part of the land which is the subject matter of such action, to test the validity of any provision of this Act or any Rule, Regulation or Order made or promulgated hereunder. Such suit shall be advanced for trial and be determined as expeditiously as feasible, and no postponement, or continuance thereof shall be granted except for reasons deemed imperative by the court. In such trials, the burden of proof shall be upon the party complaining of the validity of this Act or any provision thereof or any Rule, Regulation or Order made or promulgated hereunder and any such Rule, Regulation or Order so complained of shall be deemed *prima facie* valid. An appeal may be taken from the ruling of the court as in other civil actions.

Sec. 11. Whenever it shall appear that any person is violating or threatening to violate any provision of this Act, or any Rule, Regulation or Order made hereunder, and unless the Mining Board, without litigation, can effectively prevent further violation or threat of violation, then the Mining Board, through the Attorney General, who may call to his assistance the State's Attorney of the county in which suit is instituted, shall bring suit in the name of the people of the State of Illinois against such person in the circuit court of the county wherein is situated any part of the land which is the subject

matter of such action, to restrain such person from continuing such violation or from carrying out the threat of violation. In such suit the Mining Board, in the name of the People of the State of Illinois, may obtain such injunctions, prohibitory and mandatory, including temporary restraining orders and temporary injunctions, as the facts may warrant.

Sec. 12. Before any drilling or deepening for oil or gas is done it shall be the duty of the person, having the custody or control of any land upon which he desires to drill, to secure from the Mining Board a permit for such drilling.

Sec. 13. Where an application is made to drill or deepen an oil or gas well within the limits of any city, village or incorporated town, the application shall so state, and be accompanied with a certified copy of the official consent of the municipal authorities for said well to be drilled, and no permit shall be issued unless consent is secured and filed with the application. In the event that an amended location is selected, the original permit shall not be valid unless a new certified consent is filed for the amended location.

Sec. 14. Each application for permit to drill, deepen or convert shall be accompanied by a bank draft, check, or post office or express money order for forty dollars (\$40.00) payable to the State of Illinois, same to be deposited with the Treasurer of the State of Illinois; provided, that all wells upon which a permit fee has been paid may be converted for other use without additional fee.

Sec. 15. Any permit to drill a well for oil or gas shall expire one year from the date of issuance unless acted upon prior thereto by the commencement of drilling operations which are to be continued with due diligence. It shall in all respects be subject to the provisions of this Act and the rules, regulations, limitations and penalties herein pro-

vided or which may hereafter be adopted for the drilling, operation or plugging of oil or gas wells, or other drilling operations.

Sec. 16. Every owner or operator of any oil or gas well may appoint a person to act as his Attorney in fact to execute applications for permits to drill oil or gas wells, or any wells in connection therewith, and to execute bonds and any other papers relative to such permits. Such owner or operator shall file with the Mining Board a properly executed power of attorney on a form acceptable to the Mining Board. Every person so appointing an Attorney in fact shall, within five days after the termination of any such appointment, notify the Mining Board in writing of such termination.

Sec. 17. In case any person drilling an oil or gas well shall request a location over a portion of the coal where mining operations have not heretofore been conducted and where coal is in place, then said well shall be drilled and sunk with due regard for the plans for future development and extensions of said seams.

Sec. 18. In no event shall any high explosive be exploded in any well until twenty-four hours' notice of the intention has been given to the owner of any working coal seam.

Sec. 19. If when a well is sunk and there is no oil or gas found and such hole is what is commonly known as a "barren well" or "dry hole," or when a well is abandoned, then such hole shall be plugged in accordance with Rules and Regulations and Orders formulated in pursuance of the provisions of this Act. The Mining Board shall have power to determine what constitutes abandonment.

Sec. 20. No oil or gas well shall be drilled hereafter nearer than 250 feet to any opening to a working coal mine used as a means of ingress or egress for the persons employed therein or which is used as an air shaft, except by mutual agreement between the person owning or operating the mine and the oil or gas operator.

Sec. 21.1. (a) The Mining Board is authorized to issue permits for the drilling of wells and to regulate the spacing of wells for oil and gas purposes. For the prevention of waste, to protect and enforce the correlative rights of owners in the pool, and to prevent the drilling of unnecessary wells, the Mining Board shall, upon application of any interested person and after notice and hearing, establishing a drilling unit or units for each pool, provided that no spacing regulation shall be adopted nor drilling unit established which requires the allocation of more than 20 acres of surface area to an individual well for production of oil from a limestone formation in a pool the top of which lies less than four thousand feet beneath the surface (as determined by the original or discovery well in the pool), or more than 10 acres of surface area to an individual well for production of oil from a sandstone formation in a pool the top of which lies less than four thousand feet beneath the surface (as determined by the original or discovery well in the pool), provided, however, that the Mining Board may permit the allocation of greater acreage to an individual well than that above specified, and provided further that the spacing of wells in any pool the top of which lies less than four thousand feet beneath the surface (as determined by the original or discovery well in the pool) shall not include the fixing of a pattern except with respect to the two nearest external boundary lines of each drilling unit, and provided further that no acreage allocation shall be required for input or injection wells nor for producing wells lying within a secondary recovery unit as now or hereafter established.

(b) Drilling units shall be of approximately uniform size and shape for each entire pool, except that where circumstances reasonably require, the Mining Board may grant exceptions to the size or shape of any drilling unit or units. Each order establishing drilling units shall specify the size

and shape of the unit, which shall be such as will result in the efficient and economical development of the pool as a whole, and the size of no drilling unit shall be smaller than the maximum area that can be efficiently and economically drained by one well.

(c) Each order establishing drilling units in any pool the top of which lies four thousand feet or more beneath the surface (as determined by the original or discovery well in the pool) shall prohibit the drilling of more than one well on any drilling unit for the production of oil or gas from the particular pool with respect to which the drilling unit is established and shall specify the location for the drilling of such well thereon, in accordance with a reasonably uniform spacing pattern, with necessary exceptions for wells drilled or drilling at the time of the filing of the application. If the Mining Board finds, after notice and hearing, that surface conditions would substantially add to the burden or hazard of drilling such well at the specified location, or for some other reason it would be inequitable or unreasonable to require a well to be drilled at the specified location, the Mining Board may issue an order permitting the well to be drilled at a location other than that specified in the order establishing drilling units. Each order establishing drilling units for a pool shall cover all lands determined or believed to be underlaid by such pool, and may be modified by the Mining Board from time to time to include additional lands determined to be underlaid by such pool. Each order establishing drilling units may be modified by the Mining Board to change the size thereof, or to permit the drilling of additional wells on a reasonably uniform pattern.

(d) After the date of the notice for a hearing called to establish drilling units, no additional well shall be commenced for production from the pool until the order establishing drilling units has been

issued, unless the commencement of the well is authorized by order of the Mining Board.

(e) After an order establishing a drilling unit or units has been issued by the Mining Board, the commencement of drilling of any well or wells into the pool with regard to which such unit was established for the purpose of producing oil or gas therefrom, at a location other than that authorized by the order, is hereby prohibited. The operation of any well drilled in violation of an order establishing drilling units is hereby prohibited.

Sec. 22.1. (a) When two or more separately owned tracts of land are embraced within an established drilling unit, the owners of all oil and gas interests therein may validly agree to integrate their interests and to develop their lands as a drilling unit. Where, however, such owners have not agreed to integrate their interests, the Mining Board shall, for the prevention of waste or to avoid the drilling of unnecessary wells, require such owners to do so and to develop their lands as a drilling unit, before issuing a permit for the drilling thereon.

(b) All orders requiring such integration shall be made after notice and hearing and shall be upon terms and conditions that are just and reasonable and will afford to the owners of all oil and gas interests in each tract in the drilling unit the opportunity to recover or receive their just and equitable share of oil or gas from the drilling unit without unnecessary expense and will prevent or minimize reasonably avoidable drainage from each integrated drilling unit which is not equalized by counter drainage, but the Mining Board may not limit the production from any well under this provision. The portion of the production allocated to each tract included in an integrated drilling unit, formed by an integration order or by voluntary agreement, shall when produced, be considered as if it had been produced from such tract by a

well drilled thereon. In the event such integration is required, the operator designated by the Mining Board to develop and operate the integrated drilling unit shall have the right to charge to each owner of any oil and gas interest (except royalty interests reserved in the basic lease or leases) in each tract included in the integrated drilling unit his or its proportionate share of the actual expenditure required for such purpose not in excess of what are reasonable, including charges for supervision, and the operator shall have the right to receive the first production from any well drilled by him thereon, which otherwise would be delivered or paid to the other parties jointly interested in the drilling of the well, so that the amount due by each of them for his share of the expense of drilling, equipping and operation of the well may be paid to the operator of the well out of production, with the value of the production calculated at the market price in the field at the time such production is received by the operator or placed to his credit. In the event of any dispute relative to such costs, the Mining Board shall determine the proper costs.

Sec. 23.1. The owner or owners of any tract of land which is productive or capable of being productive of oil or gas or any owner or operator of an oil and gas leasehold on which productive wells are situated, under a lease authorizing the lessee or his assigns to explore for and remove oil and gas, from any sand, strata, or formation, shall be permitted, in the interest of oil and gas conservation, to introduce and inject air, gas, water, or other fluid under pressure upon such sand, strata or formation, for the purpose of recovering the oil and gas contained therein; provided, that the owner or operator of a well into which water or other fluid is to be introduced into the sand, strata, or formation, shall make a written application to the Mining Board for authority so to do, and provided that written approval has been granted him by the

Mining Board; and provided further that the operation shall be done under the rules and regulations of the Mining Board; and further provided, that such introduction or injection of air, gas, water or other liquid under pressure upon or into such sand, strata or formation shall not be deemed to be an unlawful act.

Sec. 23.2. (a) When two or more separately owned tracts of land are embraced within a pool or a portion of a pool suitable for secondary recovery methods, the owners thereof may validly agree to integrate their interest therein and to develop their land as a unit, and production from any tract in such established unit shall be regarded as production from all presently owned tracts or interests within such units.

(b) Agreements made in the interest of conservation of oil or gas, or both, or the prevention of waste, between and among owners or operators, or both, owning separate holdings in the same oil or gas pool, or in any area that appears from geological or other data to be underlain by a common accumulation of oil or gas, or both, or between and among such owners or operators, or both, and royalty owners therein, of a pool or area, or any part thereof, as a unit for establishing and carrying out a plan for the cooperative development and operation thereof, when such agreements are approved by the Mining Board, are hereby authorized and shall not be held or construed to violate any of the statutes of this State relating to trusts, monopolies or contracts and combinations in restraint of trade.

Sec. 24. The provisions of this Section shall not apply to any city, village or incorporated town which has enacted or hereafter enacts an ordinance or resolution limiting the locating or spacing of wells.

Not more than one permit per pool for each block shall be issued for any city, village or incorporated town in which oil or gas is discovered on or after

July 29, 1941. In any city, village or incorporated town in which oil or gas is discovered prior to July 29, 1941, not more than one permit per pool for each block shall be issued for any block in which no oil or gas well has been or is being drilled to any such pool prior to said date.

Sec. 25. No power herein granted to prevent waste shall be interpreted or construed as authorizing limitation of production of any well, wells, lease, leases, pool, field or properties to prevent or control economic waste or limit production to market demand.

Exploration and discovery of new and additional pools, fields and producing horizons are vital and the effect and administration of this Act shall be in accordance therewith and not contrary thereto. Any Rule, Regulation or Order issued under the general powers of this Act in violation of the provisions of this Section shall be void and of no effect.

Sec. 26. (a) Any person who violates any provision of this Act or who, after notice of any valid rule, regulation or order of the Mining Board made hereunder, violates, repeats or continues the violation thereof, shall be subject to a fine of not to exceed \$50 a day for each and every act of violation. (b) Any person wilfully aiding or abetting any other person in the violation of any provision of this Act, or any Rule, Regulation and Order made hereunder, shall be subject to the same penalties as are prescribed herein for the violation by such other person.

Sec. 27. "An Act in relation to sinking, filling and operating of wells for oil, gas, water or other purposes," approved May 16, 1905, as amended, is repealed.

Sec. 28. If any section, paragraph, sentence or phrase of this Act shall be declared unconstitutional, or void for any reason by any court of final jurisdiction, such fact shall not in any manner invalidate or affect any other section, paragraph, sen-

tence or phrase of this Act, but the same shall continue in full force and effect.

Effective July 12, 1951.

An Act concerning the production of oil and gas.

Whereas, in order to promote the development, production and utilization of the natural resources of oil and gas within the State of Illinois, it is in the public interest to encourage, authorize, and provide for the maximum recovery of oil and gas in the State, by the use and employment of fluid injection into productive oil and gas formations, including the use of secondary recovery methods, and also including cycling and recycling of gas, pressure maintenance, repressuring, and injection of air, gas, water and other fluids into productive horizons or strata, and to declare the law of the State in regard thereto, therefore:

BE IT ENACTED BY THE PEOPLE OF THE STATE OF ILLINOIS, REPRESENTED IN THE GENERAL ASSEMBLY:

Section 1. It is hereby declared to be the law of the State of Illinois that the grant in an oil and gas lease or contract to a lessee or operator of the right or power, in substance, to explore for and remove all oil and gas from any lands in the State of Illinois, in the absence of an express provision to the contrary therein contained, includes the right of the lessee, or his heirs or assigns, to do what a prudent operator using reasonable diligence, would do having in mind the best interests of the lessor and lessee, in producing and removing oil and gas, and includes the use of practices and methods employed by the oil and gas industry, including the injection of air, gas, water and other fluids into the productive formations or strata, and cycling and recycling of gas, when done upon the authority of and under the Rules, Regulations and Orders of the

Department of Mines and Minerals of the State of Illinois, as heretofore created or other Department or Commission hereafter created and authorized by law hereafter to administer the laws relating to the production of oil or gas, or both, in the State of Illinois.

Effective July 11, 1951.

An Act to amend Section 221 of Division I of "An Act to revise the law in relation to criminal jurisprudence" approved March 27, 1874, as amended.

BE IT ENACTED BY THE PEOPLE OF THE STATE OF ILLINOIS, REPRESENTED IN THE GENERAL ASSEMBLY:

Section 1. Section 221 of Division I of "An Act to revise the law in relation to criminal jurisprudence," approved March 27, 1874, as amended, is amended to read as follows:

DIVISION I.

Sec. 221. It is a public nuisance:

* * *

10. To permit any well drilled for oil, gas, salt water disposal or any other purpose in connection with the production of oil and gas, to remain unplugged, after such well is no longer used for the purpose for which it was drilled.

11. To construct or operate any salt water pit or oil field refuse pit, commonly called a "burn out pit", so that salt water, brine or oil field refuse or other waste liquids may escape therefrom in any manner except by the evaporation of such salt water or brine or by the burning of such oil field waste or refuse.

12. To permit concrete bases, discarded machinery and materials to remain around any oil or gas well, or to fail to fill any holes, cellars, slush pits and other excavations made in connection with any such well or to restore the surface of the lands surrounding any such well to its condition before the drilling of any such well, upon abandonment of any such oil or gas well.

13. To permit any salt water, oil, gas, or other wastes from any well drilled for oil, gas, or exploratory purposes to escape to the surface, or into a mine or coal seam, or into any underground fresh water supply, or from one underground stratum to another.

Effective July 23, 1943.

RULES AND REGULATIONS
of the
DEPARTMENT OF MINES AND MINERALS
for the
OIL AND GAS DIVISION

(Approved and adopted November 7, 1951, and amended February 1, 1960.)

In order to properly administer and enforce the provisions of an Act of the General Assembly of the State of Illinois entitled

“An Act in Reation to Oil, Gas, Coal and other Surface and Underground Resources, and to Repeal an Act Herein Named” filed July 29, 1941, as amended by an Act approved July 24, 1945 and as amended by an Act approved July 12, 1951, and as further amended by an Act approved July 22, 1959,

and to prevent waste as defined in said Act as amended, to promote the maximum ultimate recovery of oil and gas from the various pools, fields and reservoirs in the State of Illinois and to protect the vested or co-equal rights of the owners of oil, gas, coal and other surface and underground resources, the following Rules and Regulations are hereby adopted and promulgated by the Department of Mines and Minerals of the State of Illinois.

RULE 1

GENERAL PROVISIONS

(1) DEFINITIONS

“THE ACT”—When used herein shall refer to and mean the provisions of the aforementioned Act of the General Assembly of the State of Illinois, as amended.

“CEMENT”—As used herein shall mean Portland or “neat” cement.

“MINING BOARD REPRESENTATIVE”—When used herein shall mean any employee of the Department of Mines and Minerals of the State of Illinois, who is qualified by training and experience, and is authorized by the Director in writing, to perform in his stead the powers and duties set forth in the aforementioned Act, which do not require the exercise of administrative discretion or that may be prescribed by the Rules, Regulations or Orders of the Mining Board adopted or promulgated pursuant thereto.

“DEVELOPMENT”—Shall mean any work or operation on or appurtenant to the oil and gas leasehold premises, which actively looks toward the drilling of wells for oil or gas, or the discovery of or bringing in production.

“LEASE TANK”—Shall mean the tank or other receptacle into which oil is produced either directly from a well or from a well through a gas separator, gun barrel or similar equipment.

“LOG”—Shall mean the systematic detailed written record correctly describing the strata

and formations progressively encountered in the drilling of a well for oil or gas, including water, oil and gas formations or other underground resources, with such additional data as is usually recorded in the normal procedure of drilling, including electric surveying or logging.

“MUD-LADEN FLUID”—Shall mean any approved mixture of water and clay or other suitable material as the term is commonly used in the industry which will effectively seal the formation to which it is applied.

“PLUG OR PLUGGING”—Shall mean the abandoning of a producing, nonproductive or nonoperative well; or the stopping of the flow of oil, gas, or water in a well.

“OIL STRING”—Shall mean that string of casing placed in a well and used for the purpose of segregating the horizon or formation from which production is obtained and affording a means of bringing the oil or gas from such productive horizon or formation to the surface.

“REPRESSURE”—Shall mean to increase the reservoir pressure by the introduction of gas, air or water or other fluid into the reservoir.

“ROTARY DRILLING”—Shall mean the hydraulic process of drilling a well for oil or gas as such method is commonly used in the industry.

“SHOOTING”—Shall mean the exploding of nitroglycerin or other high explosives in a well hole for the purpose of discovering or increasing the production of oil or gas therefrom or in perforating or parting the pipe therein.

“SPECIAL MUD MATERIALS”—Shall mean weighting material such as barium sulphate, Bentonitic clays, salt-resistant clays, filtration reduction agents and fibrous materials.

“UNDEVELOPED LIMITS OF A MINE”—The undeveloped limits of a mine are that portion of a mine where the entries have not been driven to the boundaries of the mine property.

“VACUUM”—Shall mean pressure which is reduced below the pressure of the atmosphere.

“WASTE LIQUIDS”—Shall mean oil field brines, cut oil, bottom sediments, concentrated sulphur water and acid waters.

“WELL”—Shall mean any well drilled for the purpose of discovering oil or gas, or any other purpose in connection with the exploration and production of the same including gas, air and water input wells.

“DIRECTIONAL DRILLING”—Shall mean the controlled directional drilling when the bottom of the well bore is directed away from the vertical position.

“DRILLING UNIT”—Shall mean the surface area allocated by an order or regulation of the Mining Board to the drilling of a single well for the production of oil or gas from an individual pool.

“PATTERN FLOOD”—Shall mean a definite geometric arrangement of the input wells and the producing oil wells with a constant distance between the input and oil wells for any definite pattern.

(2) PREVENTION OF WASTE

All owners, managers, contractors, drillers, service companies, pipe pulling and salvage contractors or other persons drilling, casing or plugging oil or gas wells in this State shall at all times conduct their operations, and drill, case, plug and abandon the same in the manner set forth by the Act or as hereinafter provided, so as to prevent waste or the escape of oil or gas out of one stratum

to another, prevent the intrusion of water into oil, gas, or coal strata, and prevent the pollution of fresh water supplies by oil, gas, salt water, or sulphur-bearing water.

(3) JURISDICTION

As provided in the Act, the Mining Board shall have jurisdiction and authority over all persons and property necessary to enforce effectively the provisions of the Act.

(4) ENFORCEMENT OF ACT

The Mining Board of the Department of Mines and Minerals of the State of Illinois, being charged with the duty of enforcing the provisions of the Act and all valid Rules, Regulations and Orders adopted and promulgated pursuant thereto, may enforce or cause same to be enforced by action initiated by the Oil and Gas Division of the Department of Mines and Minerals.

(5) DELEGATION OF AUTHORITY

The Mining Board may authorize in writing any employee of the Department (herein designated Mining Board Representative) qualified by training and experience, to perform in his stead the powers and duties set forth in the Act, which do not require the exercise of administrative discretion, or that may be prescribed by the Rules, Regulations or Orders of the Mining Board adopted and promulgated pursuant thereto.

(6) RIGHT OF INSPECTION

Any authorized Mining Board Representative shall have the right at all times to go upon and inspect any oil and gas leasehold premises or property where drilling operations are or have been conducted, or from which oil or gas is being produced, for the purpose of making any investigation or tests to ascertain whether the provisions of the Act or the Rules, Regulations or Orders of the Mining Board are being complied with, and shall

make due and timely report of any violation thereof.

(7) RIGHT OF ACCESS

Any authorized Mining Board Representative shall have access to all well records wherever located. All persons having the custody or jurisdiction of the same shall permit the authorized Mining Board Representative to come upon any leasehold or other premises or property operated or controlled by them and have access at all times to, and inspect records pertaining to the drilling, completion, operation or plugging of any well drilled in this State, provided always that any information so obtained shall be considered confidential, and reported to, and only to, the Oil and Gas Division in the Department of Mines and Minerals; except that, any information so obtained may be presented as evidence in any proceeding concerned with any alleged violation of the Act or any valid Rule, Regulation or Order adopted or promulgated pursuant thereto.

(8) SWORN STATEMENTS

The Mining Board shall require sworn statements or affidavits when it is deemed to be expedient or necessary to effectuate the provisions of the Act. When such sworn statements or affidavits are required the same shall be sworn to before an officer or person authorized to administer oaths in the state where oath is taken.

(9) ADDITIONAL REPORTS

When requested in writing by the Mining Board, any oil well servicing company or other person or persons in the control or custody thereof, shall furnish and file with said Division any reports and records showing gun perforation, squeeze, cementing, shooting or chemical treatment of any well or wells, which information shall also be considered as confidential, except when presented as legal evidence in any court proceedings concerned with

any alleged violation of the Act or any valid Rule, Regulation or Order adopted or promulgated pursuant thereto.

(10) WHEN RULES AND REGULATIONS BECOME EFFECTIVE

All rules and regulations herein shall be in full force and effect when adopted and promulgated by the Mining Board, after notice and hearing as provided by the aforementioned Act, except as the same may hereafter be amended, modified, altered or enlarged in the same manner by the Mining Board.

(11) NOTICE OF RULES AND REGULATIONS

When the Mining Board issues any order under its Rules or Regulations, or under the Act, and mails a copy of the same by registered mail to the owner or manager concerned, with return receipt requested, it shall constitute legal notice of any such order of the Mining Board.

(12) FORMS

The Oil and Gas Division of the Department of Mines and Minerals shall prescribe and prepare all forms required under the Rules and Regulations herein and, when requested, shall furnish requisite copies of either thereof to any interested person requiring use of the same.

(13) HEARINGS—NOTICE

The Mining Board shall have authority to call public hearings or private hearings involving interested parties concerning matters pertaining to oil and gas activities.

(A) PUBLIC HEARINGS

A notice of public hearing as provided by the aforementioned Act shall be given by publishing one (1) notice of the time and place thereof in at least five (5) newspapers of general circulation within the main oil-producing counties

of Illinois, and such notice shall be published at least ten (10) days prior to the date of such hearing.

(B) PUBLISHER'S CERTIFICATE

Whenever notice of a hearing or Mining Board action is required to be published in a newspaper of general circulation, each publisher of the newspaper publishing said notice shall file with the Mining Board a copy of the published notice with an affidavit setting forth the date such notice was published in said newspaper.

(C) OTHER HEARINGS

A notice of hearings other than public hearings may be given by mailing a notice of the time and place of such hearing, by registered mail, with a return receipt requested, to the last known address of all persons concerned in the matter to be heard. Such notice shall be mailed at least ten (10) days prior to the date of the hearing.

In addition to such notice, the Mining Board may publish a notice of such hearing, in one (1) issue, of one (1) or more newspapers in or near the vicinity of the area involved in the matter to be heard.

RULE II

PERMITS

(1) GENERAL PROVISIONS

All applications for permits shall conform or be subject to the following requirements:

(A) APPLICATION TO BE FILED

All applications for permits shall be signed by the owner or manager or by a person authorized to sign for such owner or manager or by a member of an established firm, partnership, or association. Any person may sign for a corporation who is duly authorized so to do. Persons so authorized shall either sign personally or as Attorney in fact. If such person signs as an Attorney in fact, then a certified copy of the power of attorney shall accompany the application, unless one has been previously filed with the Mining Board.

If the application is signed by the manager, he shall furnish the Mining Board with a signed statement accompanying the application that he is the managing operator of the well and will be solely responsible for any and all violations of the Illinois Statutes and the Mining Board Rules and Regulations in the drilling, testing, completion, operation, and plugging of the well. The manager's responsibility for violations ceases if a new manager is appointed and furnishes the Mining Board with a signed managing operator's statement, as above provided.

(B) COPY OF EVIDENCE OF OWNERSHIP TO BE ATTACHED

No person shall be issued a permit for any purpose unless he has custody and control of the lands involved, either by being the fee owner

or by having a valid lease or agreement with the owners of the right to drill for oil and gas on the lands in question, proof of which shall be submitted by the applicant, by either attaching to the application certified copies of the original instruments or photostatic copies thereof, or, at the election of the applicant, by submitting a form to be furnished by the Mining Board, setting forth all such pertinent facts, which shall be subscribed and sworn to by the applicant, who shall certify the facts contained therein are true.

(C) WHEN PERMIT TO BE ISSUED

No permit shall be issued by the Mining Board until the applicant has fully met all requirements and the application is approved by the Department.

(D) PERMIT ISSUED TO OWNER OR MANAGER

All permits shall be issued by the Mining Board in the name or names of the person, firm or corporation for whom the application is made and who furnishes the bond.

(E) PERMIT POSTED AT WELL SITE

When fee permits are required no person shall commence drilling operations until the permit has been issued by the Mining Board and the original, a duplicate or a photostatic copy thereof posted at the well site.

(F) AUTHORITY TO DENY PERMIT

The Mining Board shall have authority to deny a permit to any person, when such person is in violation of the aforementioned Act or any valid and lawful Rule, Regulation or Order adopted or promulgated by the Mining Board.

(G) PERMITS NOT TRANSFERABLE

Permits issued under the Act are not transferable.

(2) APPLICATION FOR PERMIT TO DRILL OR DEEPEN WELL

(A) REQUIREMENTS

Before any person shall spud in or commence the actual drilling of any well for the discovery of oil or gas or commence operations to deepen any well to a different geological formation, such person shall file with the Oil and Gas Division of the Department, an application for a permit to drill or deepen such well on such form as the Mining Board shall require.

(B) DRILL OUT OR DEEPEN PLUGGED WELL

In order to drill out or deepen a previously plugged well, the same requirements shall apply as stated in Rule II (2) (A) except that no permit shall be issued to drill out or deepen a previously plugged well which is located less than 330 feet from the two nearest external boundary lines of the drilling unit. Exceptions shall be granted when the plugged well adjoins or is on that part of a leasehold on which secondary recovery operations are now or hereafter established.

(C) CONTENTS OF APPLICATION

The application for a permit shall include the following information, viz:

The name of the leasehold and exact location, by plat, of the well proposed to be drilled or deepened and the approximate location of producing wells previously drilled to the same formation on said leasehold, together with the name and approximate location of the offset well or wells on adjoining leaseholds, and a statement as to whether or not such proposed well location is within the limits of any incorporated city, town, or village.

Applications for permits shall be certified to by a registered Illinois land surveyor or registered professional engineer who works for the extraction of minerals from the earth.

The application shall include the names and addresses of lessor, lessee, owner, or manager and the person responsible for the conduct of drilling operations, and the name of the contractor, if available. The application shall also indicate the type of drilling tools or equipment to be used and the lowest proposed depth and geological formation to be tested.

When the applicant is not the individual owner or manager, if the applicant is a partnership, firm, association, or corporation, and if a corporation, whether its charter authorizes oil operations. If an assumed business name is used, whether it is registered as provided by the Illinois Statutes, giving county of registration.

(D) FEE

The applicant shall remit with the application to either drill, or deepen a well to a different geological formation, a fee of forty dollars (\$40.00) by check, draft, Post Office or Express Money Order payable to the State of Illinois and shall give bond as hereinafter provided.

(E) EXPIRATION OF PERMIT

All permits shall be issued to cover a period of one (1) year from the date of issue and shall expire at that time unless acted upon prior thereto by the commencement of drilling operations at the location specified in said permit, and the drilling operations shall be continued with due diligence until the well is completed as a producer or has been completed at the authorized formation named in the permit; provided always that the Mining Board shall have the authority to revoke a permit when the Mining Board finds

that any fraud, deceit, or misrepresentation was made to obtain the issuance of said permit.

Each such permit shall expire before the period of one (1) year from date of issue when and as the permittee has completed the work specified in such original permit and the well is abandoned as a dry hole or the terms of the lease on the lands in question expire by their own limitation or the lease is canceled or forfeited in the manner provided by law.

In the event the well for which a permit was issued be productive of oil or gas, then such permit shall continue in full force and effect so long as oil or gas or other petroleum products are produced, saved, or marketed therefrom.

(F) CHANGE OF LOCATION

If a permittee requests a change of location for the drilling of the well before its completion and such change is upon the same lease and is not over thirteen hundred and twenty (1320) feet from the original location and such proposed change meets with the approval of the Mining Board, the permittee shall return the original permit together with an amended application for such change of location.

(G) DIRECTIONAL DRILLING

In controlled directional drilling when the intent is to direct the bottom of the well bore away from the vertical position, in addition to an application for a well permit the applicant shall furnish the Mining Board with the proposed direction of deviation and proposed horizontal distance between the bottom of the well bore and the surface location. If a permit is issued by the Mining Board, the permittee shall file with the Mining Board, within thirty (30) days after the completion of the well, a certified accurate and complete copy of the directional survey of said well. No person, company, or organization shall

direct, or assist in directing, any well bore away from the vertical position until the Mining Board has issued a permit for such directional drilling.

(3) APPLICATION FOR PERMIT FOR GEOLOGICAL OR STRUCTURAL TEST HOLE

As provided by the Act, the Mining Board shall require any person desiring or proposing to drill geological or structural test holes in connection with any operation for the exploration or production of oil or gas, to secure a permit therefor. In addition to complying with all provisions enumerated herein, the applicant shall give bond as further required by the Act, and shall also indicate the type of drilling tools to be used and the lowest proposed depth and geological formations to be tested. No permit fee is required for this type of test hole.

Mine or quarry drill or blast holes, seismograph test holes or holes drilled to explore strippable coal are exempt from the provisions of the Act. All wells drilled for water which do not penetrate the subsurface below the glacial drift are also exempt from the provisions of the Act.

(4) PERMITS FOR SALT WATER DISPOSAL OR FOR GAS, AIR, WATER, OR OTHER LIQUID INPUT WELLS

In order to prevent waste as defined in the Act, the Mining Board shall require any person desiring to convert any well now drilled, or any person desiring to drill or deepen a well for the purpose of injecting gas, air, water, or other liquid into any underground formation or strata to secure a permit therefor.

(A) REQUIREMENTS FOR PERMIT

In addition to complying with all provisions enumerated and required in Section (1) "GENERAL PROVISIONS" above, the applicant for a permit for a salt water disposal well

or for a gas, air, water, or other liquid input well shall provide a bond as required by the Act.

In the application for a permit for such input well, the applicant shall indicate the location of all producing oil and gas wells, drilling wells or abandoned holes, within one-half ($\frac{1}{2}$) mile radius and all mines or mined out areas or the undeveloped limits of a mine within a like distance of such proposed well, together with the names and addresses of their owners, the name and description of the substance to be injected, and the depths and formation where the proposed injection will be made. The applicant shall also submit the log of such input well if previously drilled, and description and character of casing and cementing operations behind the same, and size of hole drilled.

(B) NOTICE TO OTHER OWNERS OR MANAGERS

Every person desiring to inject any such substance into an underground formation or stratum, shall notify the owners or managers of every oil or gas well, including those drilling or temporarily abandoned, and the owner of every mine, including the mined-out and undeveloped limits of any mine, within a one-half ($\frac{1}{2}$) mile radius, by registered mail on or before the day the application is filed with the Mining Board, and proof of such notice shall accompany said application. The name of the formation shall be included in the notice, and the approximate depth of the top and bottom of the formation to be injected is to be given. On receipt of such application and proof, the Mining Board shall hold the application for ten (10) days pending the filing of objections. In event objection is made within such time or the Mining Board deems a hearing should be had, notice shall be given to each objector and the applicant of the time and place designated by the Mining Board for such hearing.

(C) AUTHORITY TO DENY PERMIT

The Mining Board shall have authority to deny a permit when, in its judgment, there is danger of waste or when it believes the proposed protective work is not sufficient to confine the substance injected to the intended strata.

(D) AUTHORITY TO SUSPEND OPERATIONS

At any time it seems apparent that the injected substance is not being confined to the intended stratum and is migrating to other stratum or to the surface, the Mining Board shall have authority to suspend operations and after notice and hearing to prohibit the further use of any such well for said purposes.

(E) FEE

The applicant shall remit with the application to either convert, drill or deepen a well for the purpose of injecting any liquid into any underground formation or strata a fee of forty dollars (\$40.00) by check, draft, Post Office or Express Money Order payable to the State of Illinois, provided that all wells upon which a permit fee has been paid may be converted for the above mentioned purpose without additional fee.

(5) PERMIT REQUIREMENTS IN MINE AREAS

(A) FOR WELL PENETRATING MINE

When the location of a well to be drilled for oil or gas, or any purpose in connection therewith, will penetrate an active mine or through the mined out and inaccessible or sealed off area of an active mine, or shall penetrate the same in a temporarily abandoned mine, or the undeveloped limits of any such mine property, a drilling permit shall not be issued by the Mining Board until an agreement shall be reached between the owner of the proposed well and the mine owner,

or in the event of failure to reach such an agreement a permit will not be issued until a hearing is held as hereinafter provided.

(1) AGREEMENT WITH MINE OWNER

A copy of such agreement, jointly signed by the applicant for a permit and the mine owner agreeing to the drilling of the well and the proposed location, shall be filed with the application and accompanied by a map or sketch showing the well location, its relation to shafts and mine buildings, and to each coal seam or seams and mine workings underlying applicant's lease, or a statement from the mine owner that the location is over the undeveloped limits of the mine.

(2) REQUIREMENTS IN ABSENCE OF AGREEMENT

In the absence of such an agreement or statement, the applicant shall file with application for permit a map or sketch showing the well location, its relation to shafts and mine buildings, if any, as well as its relation to the mine workings underlying applicant's lease, with a sworn statement that a true and exact copy of application and accompanying exhibits was mailed postage prepaid to the coal company or its authorized agent in Illinois, by United States registered mail.

If within ten (10) days from the receipt of the application for permit by the Mining Board no written objections are filed, the Mining Board shall issue or deny the permit.

Upon the filing of objections to the issuance of the permit, the Mining Board shall promptly set the matter for hearing and decision.

(B) REQUIREMENTS IN INACTIVE MINING AREAS

In inactive mining areas where the existence of workable coal is known to be present and the

ownership of such workable coal has been recorded in the county records, the applicant for a permit to drill a well for oil and gas or to drill any well in connection with the production of oil and gas shall notify the owner of said workable coal by registered mail with return receipt requested. The notice shall show the exact location of the proposed test and the approximate depth of the formation to be tested. The Mining Board shall be furnished with a copy of the notice attached to the application for permit, with the return receipt from the owner of the workable coal or, in lieu thereof, a sworn statement that the applicant has the return receipt in his possession, giving the names and addresses of the owners of the coal rights and date of delivery of the notice.

(1) NOTICE TO MINE OWNER

No permit shall be issued to the applicant until ten (10) days have elapsed following the receipt of the registered notice by the owner of the workable coal.

(2) MAPS AVAILABLE AT WELL SITE

The permittee shall have an exact copy of the maps and sketches filed by him with the application for a permit at the well site, for the use of the Mining Board and its representatives.

RULE III

BONDS

(1) WHEN BONDS REQUIRED—AMOUNT

As provided by the aforementioned Act, the Mining Board shall require every person previous to the commencement of drilling for oil, gas or any other purpose in connection therewith, and every person who has created or acquired any well drilled for these purposes which has not been plugged and abandoned in accordance with the Laws, Rules, Regulations or Orders of the Mining Board, to execute and file with the Mining Board a bond of one thousand dollars (\$1000) for each of such wells, or in lieu thereof a blanket bond in the sum of twenty-five hundred dollars (\$2500) for all wells to provide for the compliance with the provisions of the aforementioned Act and all amendments thereof and to the Rules, Regulations and Orders of the Mining Board issued under the provisions of said Act and all amendments thereto.

(2) KIND OF BOND—EXECUTION

(A) SURETY OR CASH BOND

When surety bonds are given they shall be executed by a responsible surety company authorized to do business in the State of Illinois.

Cash bonds on Departmental form are acceptable when accompanied by certified check payable to the State of Illinois.

(B) PERSONAL BOND

If any other type of bond is given, the principal and the surety shall be bona fide residents of Illinois. The Mining Board is authorized to scrutinize and investigate each bond before it shall be approved or rejected, and the Mining

Board shall have thirty (30) days to pass on the sufficiency of any such bond.

(C) EXECUTION OF BOND

The Mining Board shall not approve any bond until it is personally signed and acknowledged by both the principal and surety, or for them by an attorney in fact with a certified copy of the power of attorney attached thereto.

(3) BOND OF MANAGER

The person, firm or corporation in whose name the permit is issued shall be named as principal on the bond and shall execute same for such well, together with a written statement to the Mining Board that he is the manager and will be solely responsible for any and all violations of the aforementioned Act or any Rule, Regulation or Order of the Mining Board adopted or promulgated pursuant thereto, that may occur in the drilling, operation or plugging of the well. Where the holder of a fractional working interest in the leasehold is designated as manager, he may furnish a bond.

(4) BOND FORM—APPROVAL

All bonds shall be given on a form to be prescribed by the Mining Board and shall be subject to its approval. The Mining Board may at any time request a new bond or additional sureties when it has reason to believe the present bond is inadequate.

(5) SURETY MAY CANCEL BOND

On thirty (30) days' written notice given to the Mining Board, any surety may cancel a bond or remove himself as surety, and in event of such, the surety shall not be responsible under the terms of the bond beyond the thirty-(30) day period after notice is given to the Mining Board, but shall continue to be liable for all the liabilities accruing under the bond during the period of the time he, they or it was the surety thereon.

(A) REQUIREMENTS BEFORE BOND MAY BE CANCELED

The provisions of the laws of the State of Illinois require the plugging of the well, or wells, the filling of all excavations, the removal of all concrete bases, discarded machinery and material, and restoring the surface as nearly as possible to its former condition before such well, or wells, was drilled; and such bond shall be renewed and be continued in effect until the aforesaid conditions have been fully complied with.

(6) MINING BOARD MAY CANCEL BOND

A bond given in accordance with the provisions of this rule may, upon not less than thirty (30) days' written notice to the Mining Board, be cancelled by the Mining Board, upon satisfactory proof's being furnished to the Mining Board by the principal or surety that all conditions and provisions of said bond have been fully complied with. In the event of a default by the principal in any of the conditions of the bond, the surety or sureties on such bond shall be responsible for the immediate and full compliance with the conditions of said bond.

(7) CASING PULLER'S BOND

Any person engaged in pulling casing from abandoned oil or gas wells and wells used in connection therewith, who purchases such wells for the purpose of salvaging material from the same, shall file a bond with the Mining Board in the sum of one thousand dollars (\$1000) for an individual well or in lieu thereof a blanket bond in the sum of twenty-five hundred dollars (\$2500) to guarantee the ultimate plugging of these wells conformable with the Rules, Regulations and Orders of the Mining Board, including the restoration of the ground conditions, such as filling the pits, leveling the well site, and cutting off surface pipe below plow depth, if the ground conditions have not previously been rectified by the prior owner of such well or wells.

RULE IV

SPACING OF WELLS

(1) GENERAL SPACING RULES

The Mining Board shall not issue a permit for the drilling or deepening of a well for the production of oil or gas within the State of Illinois unless the proposed well location and spacing substantially conform to the following:

(A) WELLS DRILLED OR DEEPEINED TO A POOL THE TOP OF WHICH IS LESS THAN 4,000 FEET BENEATH THE SURFACE

(1) The well shall be located not less than 330 feet from the two nearest external boundary lines of a drilling unit which shall be established by the Mining Board and shall consist of:

- (a) a minimum of ten (10) acres of surface area to an individual well drilled or deepened for the production of oil or gas from a sandstone formation in a pool the top of which lies less than four thousand feet beneath the surface, or
- (b) a minimum of twenty (20) acres of surface area to an individual well drilled or deepened for the production of oil or gas from a limestone formation in a pool the top of which lies less than four thousand feet beneath the surface;

provided, however, the Department may permit the allocation of greater acreage to an individual well than that above specified whenever the Department deems it to be practical or expedient so to do.

- (c) The drilling unit for a well to be drilled or deepened for the production of oil or

gas from a sandstone formation shall consist of ten (10) acres of surface area lying within the quarter-quarter-quarter section of land as established by the official United States Public Land Survey made pursuant to the provisions of an act of Congress.

- (d) The drilling unit for a well to be drilled or deepened for the production of oil or gas from a limestone formation shall consist of twenty (20) acres of surface area lying within the east-west or north-south one-half of a quarter-quarter section of land as established by the official United States Public Land Survey made pursuant to the provisions of an act of Congress.

(B) WELLS DRILLED OR DEEPENED TO
A POOL THE TOP OF WHICH IS 4,000
FEET OR MORE BENEATH THE
SURFACE

(1) In the absence of a specific order of the Mining Board following notice and hearing as prescribed in Section B-(6) of Rule IV which establishes drilling units and the well locations in pools the top of which lies 4,000 feet or more beneath the surface (as determined by the original or discovery well in the pool), the Mining Board hereby establishes drilling units consisting of:

- (a) a minimum of forty (40) acres of surface area to an individual well drilled or deepened for the production of oil or gas from a pool the top of which lies between 4,000 and 6,000 feet below the surface;
- (b) a minimum of one hundred sixty (160) acres of surface area to an individual well drilled or deepened for the production of oil or gas from a pool the top of which lies below 6,000 feet;

- (c) The drilling unit for a well to be drilled or deepened for the production of oil or gas from a pool the top of which lies between 4,000 and 6,000 feet beneath the surface shall consist of forty (40) acres of surface area lying within a quarter-quarter section of land. The location of the well in each drilling unit shall be not less than 330 feet from the nearest external boundary lines nor less than 900 feet from the nearest location of a producing well or well being drilled or for which a permit has previously been issued for the drilling of a well to the same individual pool;
- (d) The drilling unit for a well to be drilled or deepened for the production of oil or gas from a pool the top of which lies 6,000 feet or more beneath the surface shall consist of one hundred sixty (160) acres of surface area lying within a quarter section of land. The location of the well in each drilling unit shall be in the approximate center of one of the quarter-quarter-quarter sections which corners on the center of the one hundred sixty (160) acre unit;

and hereby expressly authorizes by this general order, the issuance of permits and the commencement of wells in accordance with the spacing provided in this Section (1) B-(1) of Rule IV, notwithstanding the fact that notice may have been given of a hearing upon any application to establish drilling and spacing units.

(2) The Mining Board, upon application of any interested person and after notice directed to all interested persons as prescribed in Section (1) B-(6) of Rule IV and hearing thereon shall establish by specific order a drilling unit or units for each pool the top of which, as measured in

the original or discovery well in the pool, lies four thousand feet or more below the surface of the earth at the location of such well. All drilling units established for each pool or portion thereof shall be of uniform shape and size.

(3) All drilling units in pools the top of which lies four thousand feet or more beneath the surface, in response to initial application for establishing the size of drilling units, shall be established to include the greatest area which may be efficiently drained by one well. When and if information from additional wells demonstrates that smaller drilling units are needed, then, upon application by any interested person and after notice directed to all interested persons as prescribed in Section (1) B-(6) of Rule IV and hearing thereon, the existing order establishing the size and shape of drilling units shall be modified.

(4) Each order establishing drilling units in any pool the top of which lies four thousand feet or more beneath the surface (as determined by the original or discovery well in the pool) shall prohibit the drilling of more than one well on any drilling unit for the production of oil or gas from the particular pool with respect to which the drilling unit is established and shall specify the location for the drilling of such well thereon. Such location shall be fixed whenever possible to permit reduction of the size of such drilling units or drilling of additional wells on such drilling units. Each such order shall also specify the geographic limits of the pool or pools subject to such order.

(5) For good cause shown upon application and after notice as provided in Rule IV (1) B-(6) hereof and after hearing, the Mining Board shall grant exceptions to the size and shape of a drilling unit or to the location of the well in a drilling unit in accordance with

the provisions of subsection (F) of this subsection (1) of this Rule IV. Whenever it appears that the geographic limits of a pool as specified in an order are incorrect, the Mining Board shall, upon application of an interested person and after notice and hearing as required in Rule IV (1) (B) (6) immediately here below, amend the order to specify the correct geographical limits of the pool.

(6) Each application filed under Rule IV (1) (B) (2) above shall be filed in the Oil and Gas Division of the Department. Each such application shall, insofar as possible, contain all information needed by the Mining Board to take the action requested. Notice of all hearings held under said Rule IV (1) (B) (2) above shall be given as provided in Rule I (13) (C) hereof. Every application filed under this Rule IV (1) (B) (2) shall be heard and an order entered by the Mining Board within thirty (30) days after the filing thereof as required herein. All interested persons shall be entitled to be heard at every hearing held under this Rule IV (1) (B) (2).

(C) SEPARATELY OWNED TRACTS WITHIN DRILLING UNIT

(1) When two or more separately owned tracts of land are embraced within a proposed drilling unit, the Mining Board shall establish the boundary lines of such drilling unit and shall require the owners of all interests in the oil and gas underlying such separately owned tracts to integrate their interests and develop said lands as a drilling unit before a permit is issued to drill or deepen a well thereon for the production of oil or gas.

(2) In the event the owners of any interest in the oil and gas underlying such separately owned tracts in a proposed drilling unit have

not agreed to integrate their interests and develop said lands as a drilling unit, then any owner in either tract may file with the Mining Board an application for a permit to drill or deepen a well for the production of oil or gas. The applicant shall furnish all pertinent data and information requested or required by the Mining Board. Whereupon the Mining Board, shall, after notice to all parties in interest and hearing on said application, enter an order either approving or denying said application; and, if approved, the Mining Board shall by said order, integrate such separately owned tracts in the established drilling unit and may in said order allocate on a surface acreage basis a portion of the production to each owner of each tract, designate the owner or operator to develop and operate the integrated unit and specify the basis upon which each such owner shall share all reasonable expenses of developing and operating the integrated tract, provided that the share of such expenses of each owner who has not agreed to such unit operation shall be recovered by the designated owner or operator of the integrated tracts only from production of oil or gas obtained from the well drilled on such unit.

(D) TWIN WELLS

Twin wells may be drilled on a drilling unit to different sandstone or limestone formations, allocating the acreage in the drilling unit for each producing formation as above provided.

(E) WELLS WITHIN CORPORATE LIMITS

In any city, incorporated village, or town which has not enacted or does not hereafter enact an ordinance or resolution limiting the locating or spacing of wells drilled for the production of oil or gas, only one (1) permit per pool for each block shall be issued by the Mining Board. If the location of the well is on a partial block already

surveyed and platted for a city, incorporated village, or town, the applicant for a permit to drill or deepen a well for the production of oil or gas shall communitize this partial block with an adjoining block before a permit will be issued. A certified copy of the official consent of the municipal authorities to drill or deepen a well located within the limits of any city, incorporated village, or town must accompany the application for permit. A certified copy of consent of the municipal authorities is also required for an amended location.

(F) EXCEPTIONS

(1) Whenever the topographical conditions of a drilling unit render it impractical, without unreasonable expense, to drill a well at a location in conformity with the spacing rules, the Mining Board may alter the location after investigation and verification of the topographical conditions.

(2) In those areas where the U. S. Government has not made an official survey, in areas covered by the old French Surveys and Grants, in meandered lands, in government lots, and in subdivisions thereof where the acreage in quarter-quarter-quarter sections and quarter-quarter sections does not conform to the spacing and drilling requirements of the law and the rules and regulations, the Mining Board shall have the authority to establish drilling units and to grant exceptions for wells when such drilling units are approximately ten (10) acres for sandstone horizons and twenty (20) acres for limestone horizons and will not cause a greater well density than would be encountered in regular official surveys.

(3) In case of irregular sections containing more or less than 640 acres, the Mining Board shall have the authority to allow exceptions or create units other than quarter-quarter-quarter sections in sandstone horizons and other than half quarter-quarter sections in limestone horizons so

as to allow approximate units of ten (10) acres in sandstone and twenty (20) acres in limestone horizons in order to absorb the entire acreage in such sections into units as aforesaid.

(4) Gas, air, water, or other liquid input wells, salt water disposal wells, and structure tests are exempt from any spacing requirements.

(5) In order that a proposed well may be located over an existing or proposed pillar of a mine property, the foregoing spacing requirements may be waived by the Mining Board when the well to be drilled or deepened for oil or gas will penetrate an active mine, the mined-out or inaccessible portion of an active mine, a temporarily abandoned mine, or the undeveloped limits of any such mine property.

(6) Each person desiring the Mining Board to grant an exception for a reason other than those specified in Paragraphs (1), (2), (3), (4), and (5) of this Section (F) shall submit with his application for permit a statement setting forth the desired exception and the reasons or necessity therefor, and giving in detail the action the applicant has taken in such matter. The applicant shall notify, by registered mail on or before the day the application is filed with the Mining Board, the owner or manager of every oil and gas well within one-half ($\frac{1}{2}$) mile radius of the proposed well location, and proof of such notice shall accompany said application. Upon receipt, the Mining Board shall hold such application and proof of notice ten days for possible objections. In the event objection is made within such time or the Mining Board deems a hearing should be had, the Mining Board shall give notice to each owner or manager listed in the proof of notice, and to the applicant, of the date and place designated by the Mining Board for such hearing. After such hearing the Mining Board shall either issue or deny the permit.

(2) SECONDARY RECOVERY

Spacing regulations for oil wells will not be waived in areas where the applicant declares an intention to undertake a proposed secondary recovery operation, until one or more input wells are first drilled or other wells are actually converted to input wells after permits have been issued for such conversion.

(A) PATTERN FLOOD

(1) When an applicant applies for a permit to drill or deepen an oil well at a location which complies with the regular spacing requirements set out in Rule IV (1) (A) or (B), a permit shall be issued by the Mining Board.

(2) When an applicant applies for a permit to drill or deepen an oil well using the same spacing pattern as that used in an adjacent pattern flood, a permit shall be issued by the Mining Board.

(3) When an applicant applies for a permit to drill or deepen an oil well at a lesser distance to the boundary lines of his leasehold than are the existing oil wells in an adjacent pattern flood, the applicant shall notify, by registered mail, the owners or managers of oil wells in the established secondary recovery projects within one-half mile of the proposed well, stating his intentions as described in his application for a permit. A copy of the notification will be held by the Mining Board ten days after its receipt with the application for a permit. If no written objections are received by the Mining Board from the operators so notified, the permit shall be issued. If written objections are received by the Mining Board within the ten-day period, the Mining Board shall call a hearing to determine the merits of issuing such a permit. After such hearing the Mining Board shall either issue or deny the permit.

(B) OTHER FLOODS

(1) When the spacing of oil wells and/or input wells is not based on a geometric arrangement, as defined in the definition of a pattern flood, the following shall apply:

- (a) When the location of the proposed oil well requested complies with the regular spacing requirements set out in Rule IV (1) (A) or (B), a permit shall be issued by the Mining Board.
- (b) When the location of the proposed oil well requested does not comply with the regular spacing requirements set out in Rule IV (1) (A) or (B), the applicant shall notify, by registered mail, the owners or managers of oil wells within one-half mile of the proposed well, stating his intentions as described in the application for a permit. A copy of the notification will be held by the Mining Board ten days after its receipt with the application for a permit. If written objections are received by the Mining Board within the ten-day period, the Mining Board shall call a hearing to determine the merits of issuing such a permit. If no written objections are received by the Mining Board from the operators so notified, the Mining Board shall either issue a permit or, at its discretion, call a hearing to determine the merits of issuing such a permit. If a hearing is held, the Mining Board shall subsequently either issue or deny the permit.

(C) RECORD TO BE KEPT

If any owner or manager of a leasehold adjoining a secondary recovery project files with the Mining Board a verified complaint stating that he has reasonable grounds to believe second-

ary recovery operations are being conducted on the offset leasehold in such manner as to violate or impair his right to recover the oil or gas underlying his leasehold premises, the Mining Board may require the owner or manager of such secondary recovery project to submit to the Mining Board his or its records and data showing the average production from said leasehold, the formation or formations subjected to such secondary recovery operations, and the daily injection volume and pressure of each input well thereon, during the period of two full calendar months preceding the filing of such complaint. If such records have not been kept by such owner or manager, the Mining Board may require that the same be kept for a specified period of time, not to exceed two full calendar months, and furnished to the Mining Board. The information or data submitted by the owner or manager of such secondary recovery project shall be confidential except that the Mining Board may exhibit the same to complainant. This rule shall not be construed to prevent the Mining Board from taking any other action authorized by the Act which it may deem necessary in order to prevent waste.

(3) NONCONFORMING WELL TO BE PLUGGED

Any well drilled in violation of the permit issued therefor shall not be allowed to produce oil or gas, but after notice and hearing by the Mining Board the said well shall be plugged and abandoned unless an exception be granted by the Mining Board.

RULE V

FILING OF LOGS AND WELL INFORMATION

(1) RETURN OF COMPLETION CARD

A completion card will be attached to each drilling permit issued by the Mining Board. Upon completion of the well for which the permit is issued, the owner, manager, or operator of said well shall furnish the information requested thereon, and shall mail the same promptly, addressed to the Oil and Gas Division of the Department of Mines and Minerals, Springfield, Illinois.

(2) WELL LOG TO BE FILED

The Mining Board shall require any owner or manager, as defined by the Act, of any well drilled for oil or gas, to file a log of strata encountered in said well and also an electric log, if one has been made, and time log if requested, in the office of the State Geological Survey, Division of the Department of Registration and Education, Urbana, Illinois, within three (3) months after the completion of said well.

(3) CONTENTS OF WELL LOG

Such logs shall show :

(A) The name, number, location and elevation of the well in accordance with the description required by the Mining Board in the application for the permit to drill such well;

(B) The name, character, depth and the thickness of the formations passed through or encountered in the drilling of such well and the depth and thickness of each oil-, gas-, or water-bearing formation or strata encountered;

(C) The depth and thickness of coal beds and deposits of mineral materials of economic value;

(D) The results on completion, whether the well was dry or productive of oil or gas, and if productive, the initial production;

(E) If fresh water has been encountered, the approximate capacity;

(F) The elevation above mean sea level of the point from which the depth measurements are made, stating its height above ground level at the well.

The correctness of the log shall be subscribed and sworn to before a notary public, that the statements contained therein are true.

When requested in writing by the owner, any or all information contained in any such log hereby required will be kept confidential until released in writing by the owner thereof or his legal representatives after its lodgment in the office of the State Geological Survey; however, no such information shall be kept confidential for more than one (1) year from the date of issue of the drilling permit for the particular well.

(4) COLLECTION OF DRILL CUTTINGS

As provided by the Act, the Mining Board shall notify the person or persons to whom any permit is issued, at the time of the issuance thereof, either to collect or not to collect for the State Geological Survey, drill cuttings representing each run drilled in cable tool wells and each ten (10) feet of distance drilled and drilling time in rotary wells. When so notified by the Mining Board to collect such cuttings hereby required, the permittee shall obtain containers for such cuttings, and information as to the approved method of collecting drill cuttings from the State Geological Survey, Urbana, Illinois.

RULE VI

IDENTIFICATION OF LEASES AND TRANSFER OF MANAGEMENT

(1) LEASE AND WELL IDENTIFICATION

To identify all producing leases the owner or manager thereof shall cause a sign to be placed where the principal lease road enters the lease and such sign shall show the name of the lease and the owner or manager thereof and the section, township and range.

A legible numeral shall be attached or painted on pumping unit or jack of each well or a legible sign placed near the well to identify the well number.

(2) TRANSFER OF MANAGEMENT

The Mining Board shall be notified within ten (10) days after the transfer of each change of management of a producing oil and gas leasehold estate or fee production.

RULE VII

WASTE PROHIBITED

(1) AVOIDABLE WASTE OF GAS

In drilling any well, if a gas sand or stratum is penetrated, the hole must not be left open so that an avoidable escape of gas, which in the opinion of the Mining Board constitutes waste, will occur during further drilling in or through such stratum or during temporary abandonment of the well. The Mining Board may require mud-laden fluid to be applied, or the gas stratum cased off, or any suitable method adopted which will arrest such escape of gas.

Gas produced in connection with the production of oil shall be burned in flares where there is no market at the well for escaping gas. The operators of casinghead gas plants operated for the extraction of liquid hydrocarbons from the gas shall burn the residue gas in flares when no market exists at such plant for the residue gas or when the gas is not returned to an oil pool or field for pressure maintenance or repressuring of the oil pool or field.

(2) ESCAPE OF UNBURNED GAS PROHIBITED

The escape of unburned gas from any well into the air or atmosphere is hereby prohibited. All such surplus gas, not otherwise utilized, shall be burned at a safe distance from any well, storage tank or building.

(3) BURN-OFF PITS

To prevent fire hazards and waste from waste oil, the same shall be collected in burn-off pits which shall be located a safe distance from oil storage tanks, buildings, or other structures, and shall be

burned as often as necessary to prevent overflowing. Such pits shall be constructed to prevent the escape of oil therefrom, and shall have a continuous wall completely surrounding the pit of sufficient height above the surface to prevent surface water from running into the pit. Earthen pits will be permitted at locations where the soil is heavy and tight, but shall be prohibited in locations where the soil is porous and closely underlaid by either gravel or sand strata.

(4) LEASE TANK RESERVOIRS

When it is deemed necessary by the Mining Board to protect life, health or property, the Mining Board may require any lease or oil storage tanks to be surrounded by an earthen dike which shall have a capacity of one and one-half ($1\frac{1}{2}$) times the capacity of the tank or tanks it surrounds, which dike shall be continually maintained; and the reservoir within shall be kept free from vegetation, water or oil.

(5) FIRE HAZARDS AT WELL LOCATIONS

All well and tank locations shall be kept free of dead grass, brush, weeds and other inflammable material and so maintained at all times.

RULE VIII

PROTECTION OF WORKABLE COAL BEDS

To prevent waste, the Mining Board shall protect workable coal beds in the drilling, casing, and plugging of wells drilled for oil or gas, or for any other purpose in connection therewith.

(1) WORKABLE COAL BEDS DEFINED

All coal beds or seams thirty (30) inches or more in thickness less than one thousand (1000) feet below the surface shall be determined as workable. When any well drilled for oil or gas, or to be used in connection therewith, penetrates such coal seams or ceases to be used for the purpose drilled, such coal seams shall be protected as herein provided.

(2) MINING BOARD MAY DETERMINE PRESENCE OF COAL SEAMS

The Mining Board shall have authority to determine when workable coal beds or seams are present, by geological data obtained from the State Geological Survey, or other relevant information which would indicate the presence of workable coal beds or seams underlying the well site.

When the presence of any coal strata or seam is disputed by the owner or manager of a well, and such condition is contrary to the geological information possessed by the Mining Board, such contention of the owner or manager shall be supported by an affidavit on a form prescribed and furnished by the Mining Board, which affidavit shall be executed by a geologist or other person qualified and competent to determine the presence of such disputed coal strata or seam. When such affidavit has been filed with the Mining Board, it shall have au-

thority to determine the issue, after obtaining all further geological information possible, or if the Mining Board deems expedient, it may on its own motion, call a hearing to be held as herein provided to determine such facts.

(3) WELL LOCATIONS PROHIBITED

No well for oil or gas shall be drilled within two hundred fifty (250) feet from any opening of an active coal mine used as a means of ingress or egress for the persons employed in such mine, or which is used as an air shaft, except by mutual agreement between the person owning or operating the mine and the oil or gas operator.

(4) NOTICE TO MINING BOARD

At least twenty-four (24) hours prior to reaching the depth of mine workings or the undeveloped limits of the mine, the person in charge of drilling operations shall notify the Mining Board or Mining Board Representative and the mine representative of the time when such well shall reach such point, in order that the Mining Board may have a Mining Board Representative present on the well site at such time.

(5) CASING AND PROTECTIVE WORK

Whenever the Rules and Regulations require a mine string to be set in a mine area, the casing used inside the mine string shall be new.

Any protective work required in a mine area shall be under the supervision of the Mining Board.

(6) OPERATIONAL REQUIREMENTS OVER ACTIVE MINE

(A) MINING BOARD TO DETERMINE SAFETY FACTORS

No well shall be drilled into any coal mine or mine workings in any active mine until the Min-

ing Board Representative is present and determines that the mine or mine workings are safe.

Until the Mining Board Representative is satisfied that adequate protection has been provided so that no hazard exists, drilling operations shall be suspended. After any protective or corrective work, required by the Mining Board Representative, has been satisfactorily completed by the well owner, manager or his representative, drilling operations may be ordered resumed; but if in the opinion of the Mining Board Representative it is impossible to adequately protect the mine or mine workings, he shall order the permit revoked and the well plugged in the manner hereinafter provided.

(B) DRILLING METHODS AND PROCEDURE

(1) GENERAL

All wells drilled through an active coal mine or through an abandoned portion of an active mine shall be located if possible in order to pass through an adequate pillar.

(2) MINE PROTECTIVE STRING

Whether drilled through a pillar or not, a mine string of casing of good quality shall be set to protect the mine. The mine string shall be treated with a heavy impervious coating of asphalt, plastic, or other acid-resisting material from fifty (50) feet above the mine roof to a point fifty (50) feet below the mine floor or base of coal seam.

The outside diameter of the mine string shall be at least four (4) inches smaller than the diameter of the well bore and equipped with centralizers or similar mechanical device above and below the coal seam. The mine string shall be set at an approximate depth of fifty

(50) feet below the base of the coal seam and cemented from the casing seat to the surface.

If the mine string misses a pillar and is set through an open room of an active mine or the abandoned portion of an active mine, an umbrella, basket, or packer must be used on the mine string to set above the mine roof and the mine string shall be cemented from the casing seat to the mine floor and also cemented from the umbrella, basket, or packer set above the mine roof to the surface.

(3) CEMENTING OIL STRING

The outside diameter of the oil string shall be at least three (3) inches smaller than the inside diameter of the mine string when set through a pillar, and the outside diameter of the oil string shall be at least four (4) inches smaller than the mine string when set through an open room and equipped with centralizers, or similar mechanical devices, immediately above and below the coal seam. The centralizers shall be so spaced as to be within the mine string of casing.

The oil string shall be surrounded with cement from the casing shoe to the surface, or the oil string may be cemented using multiple-stage cementing tools, as hereinafter provided.

When the multiple-stage cementing method is used, at least one hundred (100) sacks of cement shall be placed around the casing shoe and the multiple-stage cementing tool placed one hundred (100) feet below the floor of the mine and cemented from that point to the surface.

In areas where thief zones or high permeability horizons occur below the level of the mine, the Mining Board may require multiple-stage cementing tools to be used in the cementing of the oil string in order to assure protection for the mine.

(4) TEMPERATURE SURVEY REQUIRED

When drilling through mined out areas which are not accessible, and, if, in the opinion of the Mining Board representative, it is necessary, a self-registering thermometer shall be lowered to the mined out level; and if the recorded temperature shows the possibility of fire at or near the position of the hole, the drilling permit shall be revoked and the hole plugged, as herein required.

(C) SHOOTING WELLS OVER ACTIVE MINES OR WORKED OUT PORTIONS OF ACTIVE MINES

(1) SHOT LESS THAN FIFTY (50) QUARTS

When any well is located over or penetrates an active mine or worked out portions of an active mine, before shooting the oil-bearing formation, the well owner or manager shall proceed as follows:

- (a) Notify the Mining Board or Mining Board Representative at least twenty-four (24) hours in advance of the time the shot is to be fired.
- (b) Notify the mining company at least twenty-four (24) hours in advance of the time the shot is to be fired.
- (c) Tamp the shot with a minimum of sixty (60) feet of tamp, at least the top thirty (30) feet of which shall be of impervious material, being sure that the top of the tamp extends to a place in the hole opposite solid rock formation. Fill the hole to the top with fluid of consistent viscosity and specific gravity.

(2) SHOT EXCEEDING FIFTY (50)
QUARTS

When the charge exceeds fifty (50) quarts of nitroglycerin:

- (a) Apply to the Mining Board for permission to shoot, indicating the size of charge to be used.
- (b) In the absence of written authority from the coal company for the specific shot, the Mining Board shall:
 - (1) Immediately upon receipt of application notify the coal company indicating location of well and size of charge to be used.
 - (2) If no objection is filed by the coal company within twenty-four (24) hours, the Mining Board shall give permission to fire the shot.
 - (3) If coal company objects, the Mining Board shall, within twenty-four (24) hours of receipt of said objection set matter for hearing and determination in county where well is located.
- (c) Extend the tamp with impervious material ten (10) feet beyond the minimum tamp of sixty (60) feet for each additional ten (10) quarts of charge used, being sure that the top of the tamp extends to a place in the hole opposite solid rock formation. Fill the hole to the top with fluid of consistent viscosity and specific gravity.

RULE IX

DISPOSAL OF SALT WATER OR OTHER LIQUIDS TO PREVENT WASTE AS DEFINED IN THE ACT

To prevent waste, no person shall dispose of salt water or other waste liquids except in the following manner. Any other method of disposal is hereby prohibited.

(1) MINING BOARD SUPERVISION

When salt water or other waste liquid is not properly impounded or is being improperly disposed of, the Mining Board shall order such improper condition corrected when it is determined that the disposal method used pollutes fresh water supplies, creates a hazard, or is injurious to life, health or property.

(2) DISPOSAL IN UNDERGROUND STRATUM

Salt water or other waste liquids may be disposed of into an underground formation or strata after a permit to do so has been procured from the Mining Board as hereinbefore provided. The Mining Board shall have authority to designate and approve the stratum into which such liquids shall be disposed of, also the protective work necessary to confine such liquids to the intended stratum. All such work shall be executed under the supervision of a Mining Board Representative and shall conform to the requirements imposed in granting the permit therefor.

(3) DISPOSAL IN EARTHEN PITS

Salt water or other waste liquids may also be disposed of by evaporation when impounded in

excavated earthen pits, which may only be used for such purpose when the pit is underlaid by tight soil such as heavy clay or hardpan.

Where the soil under the pit is porous and closely underlaid by a gravel or sand stratum, impounding of salt water or other waste liquids in such earthen pits is hereby prohibited. When such liquids are impounded in an earthen pit, it shall be so constructed and maintained as to prevent escape of such liquids therefrom.

The Mining Board shall have authority to condemn any pit which does not properly impound such liquids and order the disposal of such liquids into an underground formation, as herein provided.

The level of salt water or other waste liquids in earthen pits shall at no time be permitted to rise above the lowest point of the ground surface level. All pits shall have a continuous embankment surrounding them sufficiently above the level of the surface to prevent surface water from running into the pit. Such embankment shall not be used to impound salt water or other waste liquids.

At no time shall salt water or other waste liquids impounded in earthen pits be allowed to escape over adjacent lands or into streams.

(4) PIPES TO BE KEPT IN REPAIR

A pipe conveying such liquids to any salt water disposal well or pit shall be kept in good repair and free from leaks, and no outlet valve will be permitted in such pipe between the place of origin and discharge.

RULE X

VACUUM

The use of vacuum pumps or other devices for creating a vacuum on any oil- or gas-producing stratum is hereby prohibited until the owner or manager has complied with the following requirements:

(1) APPLICATION FOR USE OF VACUUM

On or before the date of filing an application by letter for the use of vacuum on any leasehold, the applicant shall notify, by registered mail, all other persons owning or managing producing oil or gas wells located within one-half ($\frac{1}{2}$) mile radius of the well or wells where the use of vacuum is proposed, and shall set out in the notice the proposed strata or formation and exact location of the well or wells to be affected by the application or use of such vacuum. The applicant shall submit proof of such notice with the application, giving the names and addresses of all well owners or managers within such one-half ($\frac{1}{2}$) mile radius.

(2) NOTICE AND HEARING ON APPLICATION

On receipt of such application and proof of notice, the Mining Board shall hold the same for ten (10) days pending the filing of objections, and if none is received at the end of such period, the application may be approved by the Mining Board.

In event objection is made by the owner or manager of any well or wells producing from the same formation, which are located within one-half ($\frac{1}{2}$) mile radius of the proposed vacuum installation, and the Mining Board deems a hearing shall be had,

notice shall be given to each objector and the applicant, of the time and place designated by the Mining Board for such hearing.

(3) MINING BOARD AUTHORITY

The Mining Board shall have authority after notice and hearing to prohibit vacuum or to deny or revoke permission for the use of vacuum when, in its judgment, there is danger of underground waste.

The Mining Board shall have authority to grant permission when it believes a further recovery of oil can be obtained by use of vacuum without danger of underground waste.

RULE XI

PLUGGING OF WELLS

As provided by the Act, as amended, and to prevent waste as therein defined, any owner or manager who owns, has drilled, or has acquired a nonproductive well drilled for oil or gas, or for any other purpose in connection with the exploration and production of the same, including unused input wells, salt water disposal wells, and geological or structure test holes drilled below the glacial drift, shall be required by the Mining Board to securely plug and abandon such well in the manner herein provided, except when an extension of time has been granted by the Mining Board in writing.

(1) MINING BOARD SUPERVISION

The plugging and abandoning of wells and the consequent pulling of casing or the partial plugging back operations from one formation to another shall be under the supervision of the Mining Board and the Mining Board Representative. The Mining Board shall have authority to prohibit the plugging of a well when the equipment used is not adequate or is insufficient, in the opinion of the Mining Board, to perform the abandonment according to the Rules and Regulations.

When the casing in any well is not the property of the person owning the well, the owner of such casing is prohibited from pulling the same until he has notified a Mining Board Representative, and then shall securely plug such well under the supervision of the Mining Board in the same manner as the owner of the well is herein required.

(2) WHEN WELL TO BE PLUGGED

The owner or manager shall not permit any well drilled for oil, gas, salt water disposal or any other

purpose in connection with the production of oil and gas, to remain unplugged after such well is no longer used for the purpose for which it was drilled or converted.

(3) PRIOR NOTICE TO MINING BOARD REPRESENTATIVE

When the owner or manager of any inactive, nonproductive or nonoperative well desires to plug such well or partially plug back to a different formation or to withdraw casing from such well, he shall notify a Mining Board Representative and, if in an active coal mine area, notify the owner or operator of such coal mine at least eight (8) hours in advance of the time he expects to begin plugging or pulling casing. The commencement of such operations, including shooting off casing, is prohibited until an authorized Mining Board Representative is present.

(4) OWNER TO FURNISH WELL LOG

Upon arrival of the Mining Board Representative at the site of the well to be plugged or partially plugged back to a different formation, the owner or manager of the well, or his representative, shall make available to the Mining Board Representative a complete log of the well, which shall show the character and depth of all formations encountered in the drilling of such well, particularly showing the depth and thickness of all oil-bearing strata, gas-bearing strata, water-bearing strata, and workable coal beds.

When no log is furnished by the owner, the Mining Board may require the well to be filled with cement from bottom to top, or the Mining Board may require it to be plugged in accordance with the knowledge of logs of nearby wells.

(5) PLUGGING METHODS AND PROCEDURES

(A) GENERALLY

A cement plug to protect the producing formation must be placed opposite the producing formation and extend to a point twenty (20) feet above the top of said producing formation. In cases where the history of the well shows that heavy or repeated shots in a sandstone formation, or heavy or repeated acidization in a limestone formation, render it probable that a large cavity exists within the producing formation, it is permissible to fill such cavity with sand, crushed rock, or other suitable material approved by the Mining Board in order to provide an anchor on which to place a cement plug not less than twenty (20) feet in length above the top of such producing formation. A cement plug is to be placed below the casing seat of the oil string and extend to a point twenty (20) feet above said seat and if there is a liner that is not to be withdrawn, said cement plug shall be placed at the top of the liner and extend to a point twenty (20) feet above.

No sand, gravel, or other foreign substance shall be mixed in the slurry; however, the use of an admixture of special mud materials may be used, subject to the approval of the Mining Board Representative.

(B) PROTECTION OF COAL SEAMS

Each coal seam of thirty (30) inches or more of thickness and lying above the depth of one thousand (1000) feet shall be protected by a cement plug extending one hundred (100) feet above said coal seam to a distance of fifty (50) feet below the same or to the bottom of the hole, whichever is less.

In wells penetrating an active mine or the worked out area of a mine or the undeveloped

limits of a mine property having workable coal seam or seams, a substantial support shall be provided for each cement plug required for coal seam protection. The supporting plug shall consist of wood or other suitable material having adequate strength and shall be set and tested to determine that settlement or a movement of the cement plug will not take place during the period required for the setting of the cement.

(C) SHOOTING CASING IN ROTARY HOLE

In wells originally drilled by rotary tools, before any casing is shot off or otherwise parted at a point above the casing shoe, the hole must be filled with properly prepared mud of not less than thirty-eight (38) viscosity, or other suitable material, to the point of parting. After the casing is parted and withdrawn, the hole must be completely filled with mud.

A cement plug twenty-five (25) feet in length shall be placed ten (10) feet below the base of the surface casing and extend to a point at least fifteen (15) feet above the base of surface casing. The remainder of the hole shall be filled with mud.

The surface casing shall be cut off three (3) feet below the surface of the ground and a mushroomed cement cap of approximately one (1) foot in thickness shall be placed over the casing so that the top of the mushroomed cap is at least two (2) feet below the surface of the ground. The hole shall then be filled with dirt and the surface of the ground leveled.

In the event that surface casing has not been used, a cement plug shall be placed in the hole three (3) feet below the surface to a depth of twenty-five (25) feet. A mushroomed cement cap of approximately one (1) foot in thickness shall be placed over the top of the hole so that the top of the mushroomed cap is at least two

(2) feet below the surface of the ground. The hole shall then be filled with dirt and the surface of the ground leveled.

These provisions shall not exclude the placing of cement in the producing formation or opposite workable coal seams as herein provided. The surface casing of such wells shall not be withdrawn.

(D) IN WELLS DRILLED WITH CABLE TOOLS

In wells drilled and completed by cable tools, the producing formations and all workable coal seams must be protected as heretofore provided. As each string of casing is picked up or parted, it shall be raised one joint, and then approximately one-fourth ($\frac{1}{4}$) yard of native clay or mud dropped down the casing and allowed to settle below the base of casing.

When pulling casing from wells where caving occurs which partially fills the well bore the remainder of the hole shall be plugged as herein provided.

In such cases and also in wells where formation or walls of the hole do not cave, the hole shall be filled to within twenty-five (25) feet of the surface with native clay or Bentonitic materials.

In areas where in the drilling of the well it was necessary to drive pipe for the outside string in order to prevent caving or to protect fresh water horizons or formations, this drive pipe shall be left in place and not removed.

Where drive pipe is used it shall be cut off three (3) feet below the surface of the ground and a twenty-five (25) foot cement plug run inside the drive pipe and anchored thereto.

plug shall be placed at a point three (3) feet

Where surface casing has been pulled, a cement

below the surface to a depth of twenty-five (25) feet.

In either event where drive pipe is used or the surface casing has been pulled, a mushroomed cement cap of approximately one (1) foot in thickness shall be placed at a point three (3) feet below the surface of the ground and allowed to mushroom until the diameter of the cement plug is at least three (3) times the diameter of the hole drilled, then the hole shall be filled with dirt and the surface of the ground leveled.

(E) WHEN CASING LEFT IN HOLE

In wells where casing is not removed when wells are abandoned, the plugging operation shall be done in the same manner as provided for abandoning wells where casing is withdrawn.

(F) FOREIGN MATERIAL PROHIBITED

No person shall knowingly or purposely place or lodge any foreign material or substance in an unplugged well which will either fill or bridge such hole.

When foreign material has been knowingly or purposely placed in the hole the Mining Board may require such material to be removed before plugging operations are commenced.

(G) PLUGGING BRIDGED HOLE

When in normal production or drilling operations the hole becomes plugged or obstructed because of loss of drilling tools or producing equipment which it would be impractical or impossible to remove, special consideration shall be allowed and the well shall be plugged as nearly to the aforementioned requirements as existing circumstances will permit. The exact method of plugging and the equipment lost shall be shown on the plugging affidavit.

(6) CONVERTING TO WATER WELL

When the fee owner of the surface desires to utilize a well to be abandoned for fresh water purposes, such well need not be filled above the fresh water strata or bed, but a twenty-five-foot (25) cement plug shall be placed immediately below such fresh water bed, provided, however, written authority for such use is secured from the fee owner who shall also sign and file with the Mining Board a release form furnished by the Mining Board, thereby releasing the owner, manager, or operator from all responsibility and statutory or other requirements for the further plugging of said well.

(7) RESTORATION OF SURFACE

The owner or manager shall, as soon as weather or ground conditions permit, upon the final abandonment and completion of the plugging of any well, clear the area around the location of all refuse material, burn waste oil, drain and fill all excavations, remove concrete bases, machinery and materials, and level the surface to leave the site as nearly as possible in the condition encountered when operations were commenced.

When the fee owner of the surface desires to utilize the pits dug in connection therewith, the fee owner shall sign and file with the Mining Board a release form furnished by the Mining Board, thereby releasing the owner, manager, or operator from all responsibility and statutory or other requirements for the further filling of the pits.

(8) EXTENSION OF TIME TO PLUG WELL

Upon written application for an extension of time to defer the plugging and abandonment of any unplugged well, the Mining Board, at its discretion, may grant such extension for a reasonable period of time when good cause can be shown by the person making the application, and provid-

ing the casing is all left in the well and is in sound condition. If water was encountered which will flood oil-bearing formations exposed in the open hole, the water-bearing formation below the casing seat shall be plugged off with cement. The top of the casing shall be securely capped.

If no bond covering such well is then in effect, a bond shall be given before the extension is granted, and such bond shall remain in full force and effect until the well is plugged and the other requirements of final abandonment have been completed.

At the expiration of any extension granted, the well shall be plugged and abandoned if a further extension is denied by the Mining Board.

(9) FILING PLUGGING AFFIDAVIT

Immediately after the plugging of any well has been accomplished, an affidavit shall be executed in duplicate and jointly signed by the owner or manager or his representative and the Mining Board Representative who supervised the plugging operation. The plugging affidavit, in duplicate, on a form furnished by the Mining Board, shall be filed in the office of the Oil and Gas Division of the Department of Mines and Minerals at Springfield, Illinois.

RULE XII

VALIDITY OF RULES AND REGULATIONS

In case any word, phrase, sentence, or other portion of these Rules and Regulations shall hereafter be declared invalid, such invalidity shall not affect the remaining portions and parts of the Rules and Regulations adopted or promulgated by the Department.

All former Rules and Regulations heretofore adopted by the Department are replaced and superseded by these Rules and Regulations upon their adoption by the Mining Board.

MINING BOARD FORMS

Form OG 10-A Rev.—Application for Authorization to Drill, Deepen or Convert a Well.

Form OG-2—Revised—Application for Salt Water Disposal Well.

Form OG-3 Revised—Application for Gas or Water Input Well For Secondary Recovery.

Surety Bond Form—For Individual Well or Blanket Bond.

Cash Bond Form—For Individual Well or Blanket Bond.

Suggested Form—Power of Attorney.

Post Card—Notice of Well Completion.

Form of—Release signed by landowner releasing operator of responsibility for filling pits.

Form of—Release signed by landowner releasing operator where top portion of well bore left unplugged for use as fresh water well.

Form for—Request to Cancel Bond.

Form of—Statement of Ownership.

Application Card—For Permit to Drill Water Well.

Not Distributed to Public:

Form O.G. 6—Well Plugging Affidavit.

Form for—Notice of Violation.

Form for—Cancellation of Bond.



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RULE CHANGES

Effective April 1, 1964, the Illinois Mining Board, after a public hearing, amended "AN ACT IN RELATION TO OIL, GAS, COAL AND OTHER SURFACE AND UNDERGROUND RESOURCES AND RULES AND REGULATIONS" as follows:

1. RULE I(1) (Page 23)

Add the following definitions:

"FRESH WATER"—For purposes of this Act, fresh water shall mean water having five (5) parts per one thousand (1,000) total dissolved solids or less.

"SECONDARY RECOVERY"—shall mean the recovery obtained by any method whereby oil and gas is produced by augmenting the natural reservoir energy.

2. RULE II (1) (E) PERMIT POSTED AT WELL SITE (Page 31)

Add to existing rule:

The permit shall remain posted at the well site until the drilling of the well has been completed.

RULE II (5) (B) (2) MAPS AVAILABLE AT WELL SITE (Page 39)

Replaces existing rule:

During the drilling of a well, for which a permit has been issued, the permittee shall keep at the well site for the use of the Mining Board and its representatives an exact copy of the maps and sketches which accompanied his application for such permit.

3. RULE IV(1) (E) WELLS WITHIN CORPORATE LIMITS (Page 48)

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Eliminate the first two sentences presently in this Rule.

4. *Replacement* for entire RULE IX (Page 65)

AVOIDANCE OF FRESH WATER POLLUTION AND DISPOSAL OF SALT WATER OR OTHER LIQUIDS TO PREVENT WASTE AS DEFINED IN THE ACT.

To assure fresh water supplies and to prevent waste, no person shall dispose of salt water or other waste liquids except in the following manner. Any other method of disposal is hereby prohibited.

(1) DISPOSAL IN UNDERGROUND STRATUM

Salt water or other waste liquids may be disposed of into an underground formation or strata after a permit to do so has been procured from the Mining Board as hereinbefore provided. The Mining Board shall have authority to designate and approve the stratum into which such liquids shall be disposed of, also the protective work necessary to confine such liquids to the intended stratum. All such work shall be executed under the supervision of a Mining Board Representative and shall conform to the requirements imposed in granting the permit therefor.

(2) DISPOSAL IN EARTHEN PITS

Salt water and other waste liquids may be impounded and collected or disposed of by evaporation in excavated earthen pits where the salt water or other waste liquids will not contaminate ground water or pollute surface water in accordance with the following rules.

A. New Pits

Before any earthen pit may be constructed

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for such purposes the operator shall file with the Mining Board an application on a form approved by the Board. The form may request such geological and engineering data as is reasonably necessary to enable the Oil and Gas Division to determine whether or not the pit will be sufficient to prevent the contamination of ground water or pollution of surface water.

Within ten days after receipt of such application, the Mining Board shall:

1. Return the application with an explanation as to why permit has been refused, or
2. Issue a permit for the construction and use of the pit.

Earthen pits may be constructed for such purposes only when the pit is underlain by tight soil such as clay or hardpan. Where the soil under the pit is porous and closely underlain by a gravel or sand stratum, impounding of salt water or the waste liquids in such earthen pits is hereby prohibited except where pit is constructed with such material which will prevent seepage from the pit.

B. Existing Pits

Within six (6) months from the effective date of this rule, operators of all existing salt water pits shall submit application for a permit for said pits on such form as the Mining Board may provide. The application will be approved subject to physical inspection if the pit adequately prevents the escape of waste liquids.

When such liquids are impounded in earthen pits, the pit shall be constructed and maintained so as to prevent escape therefrom. The

waste liquids in earthen pits shall at no time be permitted to rise above the lowest point of the ground surface level. All pits shall have continuous walls surrounding them so that no surface drainage from adjacent areas can enter the pits. No pit shall be used in an area which is subject to flooding by streams, rivers, lakes, or drainage ditches, unless so constructed that the pit would not normally be affected by flooding.

(3) PIPES TO BE KEPT IN REPAIR

A pipe conveying such liquids to any salt water disposal well or pit shall be kept in good repair and free from leaks, and no outlet valve will be permitted in such pipe between the place of origin and discharge.

(4) SLUSH AND MUD PITS

When drilling with cable tools, the operator shall provide at least one (1) properly prepared slush pit, into which he must deposit mud and cuttings. When drilling with rotary tools, the operator shall provide the necessary mud circulation and reserve pits.

(5) ROTARY DRILLING PROCEDURE

To protect fresh water stratum the following rules on "Drilling Procedure" shall apply to wells drilled with rotary tools:

It is incumbent on the operator to ascertain and set suitable and safe surface casing in all wells drilled from the effective date of these rules. In all wells drilled in areas where pressure and formation are unknown, sufficient surface casing shall be run to reach a depth below all utilized fresh water levels and shall be of sufficient size to permit the use of an intermediate string of casing. Surface casing shall be set in or

through an impervious formation, and shall be cemented by the pump and plug or displacement method with sufficient cement to circulate to the top of the hole.

In wells drilled in areas where the subsurface conditions have been established by drilling experience, surface casing size at the operator's option shall be set and cemented to the surface by the pump and plug or displacement method at a depth to protect all utilized fresh water.

Cement shall be allowed to set under pressure before drilling the plug in accordance with standards prevailing in the area.

In lieu of surface casing requirements as set out herein and at the option of the operator the flow string may be cemented by the pump and plug or displacement method with sufficient cement to protect all utilized fresh water stratum.

In the event that it is later determined that utilized fresh water strata exist below the surface casing in a producing oil, gas or service well, then the operator, contractor, or owner shall under the supervision of a representative designated by the Mining Board, cause the flow string to be perforated and squeezed with cement to protect such fresh water strata, or take such other measures for the protection of such fresh water strata as are ordered by the Mining Board after notice and hearing.

(6) CABLE TOOL DRILLING RULES

Before commencing to drill, proper and adequate slush pits shall be constructed for the reception of mud of sufficient quality and quantity so that such mud may be available if and when the hole is plugged.

Where cable tools are used, sufficient surface casing shall be set to protect all utilized fresh water levels, and subsurface casing shall be cemented by the pump and plug or displacement method with sufficient cement, provided further that any hole drilled by cable tools where fresh water stratum is encountered fifty (50) feet or less from the surface, methods other than noted above may be used in setting surface casing, provided such method protects all utilized fresh water stratum.

(7) MINING BOARD SUPERVISION

When salt water or other waste liquid is not properly impounded or is being improperly disposed of, or pollution of utilized fresh water stratum is occurring from improper drilling procedures, the Mining Board shall order such improper condition corrected when it is determined that the disposal method used pollutes utilized fresh water supplies, creates a hazard, or is injurious to life, health, or property.

(8) YEARLY INSPECTION OF PITS— REVOCATION OF PERMITS—OR- DERS FOR CORRECTIVE ACTION AND OTHER DISPOSAL

All pits for which permits have been issued shall be subject to a yearly inspection by the Mining Board. After ten (10) days written notice to the operator, and after a hearing, the Mining Board may condemn any pit which does not properly impound salt water and other waste liquids, and (1) order revocation of the pit permit, (2) order the operators to take measures to correct the defective conditions of the pit, or (3) order the operator to dispose of such liquids and waste by some other means. Such orders of the Mining Board

requiring the operator to take corrective measures or to dispose of liquids and waste by other means shall specify the period of time (no less than 10 days nor more than 90 days) the operator shall have to take corrective measures or to make alternate disposal. Such period of time shall be extended by the Mining Board when circumstances beyond the control of the operator effectively prevent the operator's compliance. The pit permit shall automatically be revoked unless the operator has complied with such orders by the expiration of said time period.

5. RULE XI

(2) WHEN WELL TO BE PLUGGED

(*Add underlined words*) (Page 69)

The owner or manager shall not permit any well drilled for oil, gas, salt water disposal or any other purpose in connection with the production of oil and gas, to remain unplugged after such well is no longer used *or held for use* for the purpose for which it was drilled or converted.

(*add this paragraph*)

Unless the operator of any such well has been granted an extension of time to plug pursuant to Section (8) of this Rule XI, such well shall be plugged when and if:

(a) drilling operations on a drilling well shall have ceased for a period of 30 days and no production string has been run.

(b) any well for which operations have ceased for a period of six (6) months, provided however, in any event, if the surface equipment is not in place on such well, the well shall be capped promptly for safety reasons.

(7) RESTORATION OF SURFACE

(*Replacement*) (Page 75)

Leaving the surface of lands with a part of the operating structure or other equipment intact after abandoning or plugging a well or wells is against public policy and constitutes public nuisances and shall be hereafter prohibited. Whenever any owner or manager shall abandon or plug a well or wells he shall within six (6) months thereafter clear the area around the location of all refuse material, burn waste oil, drain and fill all excavations, remove concrete bases, machinery and materials, and level the surface to leave the site as nearly as possible in the condition encountered when operations were commenced, unless the fee owner of the surface of said land and the owner or manager have entered into a written contract providing otherwise. A copy of this contract shall be filed with the Mining Board for their approval.

When the fee owner of the surface desires to utilize the pits dug in connection therewith, the fee owner shall sign and file with the Mining Board a release form furnished by the Mining Board, thereby releasing the owner, manager, or operator from all responsibility and statutory or other requirements for the further filling of the pits.

Any person, firm, association, partnership or corporation violating the provisions of this Act shall be subject to penalties of the Public Nuisance Act as set forth in Section 222 of the Criminal Code of the Illinois Revised Statutes.

(8) EXTENSION OF TIME TO PLUG WELL (*Add 2nd underlined paragraph*)
(Page 75)

Upon written application for an extension of time to defer the plugging and abandonment of any unplugged well, the Mining Board, at its discretion, may grant such extension for a reasonable period of time when good cause can be shown by the person making the application, and providing the casing is all left in the well and is in sound condition. If water was encountered which will flood oil-bearing formations exposed in the open hole, the water-bearing formation below the casing seat shall be plugged off with cement. The top of the casing shall be securely capped.

Requests for an extension of time to plug shall be granted by the Mining Board if the cause shown by the operator shall be for the use of future possible production or other good causes. The extension of time granted by the Mining Board shall and hereby does require the operator to notify the Mining Board of any change in status of the well. Any extension of time to plug shall be on a non-transferable basis.

If no bond covering such well is then in effect, a bond shall be given before the extension is granted, and such bond shall remain in full force and effect until the well is plugged and the other requirements of final abandonment have been completed.

At the expiration of any extension granted, the well shall be plugged and abandoned if a further extension is denied by the Mining Board.



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AN ACT IN RELATION TO OIL,
GAS, COAL AND OTHER
SURFACE AND UNDERGROUND
RESOURCES
and
RULES AND REGULATIONS

DEPARTMENT OF MINES & MINERALS
L. L. RUFF, Director

DIVISION OF OIL AND GAS
GEORGE R. LANE, Petroleum Engineer

(Printed by Authority of the State of Illinois)

REVISED EDITION

1967

STATE OF ILLINOIS
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I N D E X

	Page
OIL, GAS and COAL ACT.....	2-22
RULES and REGULATIONS.....	23-89

RULE I

GENERAL PROVISIONS	24-30
Definitions	24-26
Prevention of Waste	27
Jurisdiction	27
Enforcement of Act	27
Delegation of Authority	27
Right of Inspection.....	28
Right of Access	28
Sworn Statements	28
Additional Reports	29
When Rules and Regulations Become Effective.....	29
Notice of Rules and Regulations.....	29
Forms	29
Hearings—Notice	30
Public Hearings	30
Publisher's Certificate	30
Other Hearings	30

RULE II

PERMITS	31-40
Application to be Filed.....	31
Copy of Evidence of Ownership to be Attached.....	31
When Permit to be Issued.....	32
Permit Issued to Owner or Manager.....	32
Permit Posted at Well Site.....	32
Authority to Deny Permit.....	32
Permits Not Transferable	33
Application for Permit to Drill, Deepen or convert	
Well	33
Requirements	33
Drill Out or Deepen Plugged Well.....	33
Contents of Application	33
Fee	34
Expiration of Permit	34
Change of Location	35
Directional Drilling	35
Application for Permit for Test Hole or Water	
Supply Well	36
Permits for Salt Water Disposal or for Gas, Air,	
Water, or Other Liquid Input Wells.....	36
Requirements for Permit	36
Notice to Other Owners or Managers.....	37
Authority to Deny Permit	38
Authority to Suspend Operations.....	38
Fee	38
Permit Requirements in Mine Areas.....	38
For Well Penetrating Mine.....	38
Agreement With Mine Owner.....	39
Requirements in Absence of Agreement.....	39
Requirements in Inactive Mining Areas.....	39
Notice to Mine Owner.....	40
Maps Available at Well Site.....	40

RULE III

	Page
BONDS	41-43
When Bonds Required—Amount.....	41
Kind of Bond—Execution	41
Surety or Cash Bond.....	41
Personal Bond	41
Execution of Bond	42
Bond of Manager	42
Bond Form—Approval	42
Surety May Cancel Bond.....	42
Requirements Before Bond May Be Canceled.....	43
Mining Board May Cancel Bond.....	43
Casing Puller's Bond	43

RULE IV

SPACING OF WELLS	44-52
General Spacing Rules	44
Wells Drilled or Deepened	44-47
Separately Owned Tracts Within Drilling Unit.....	47
Twin Wells	48
Wells Within Corporate Limits	48
Exceptions	48-50
Secondary Recovery	50
Pattern Flood	50
Other Floods	51
Record to be Kept	51-52
Nonconforming Well to be Plugged.....	52

RULE V

FILING OF LOGS AND WELL INFORMATION	53-54
Return of Completion Report.....	53
Well Log to be Filed.....	53
Contents of Well Log	53-54
Collection of Drill Cuttings.....	54

RULE VI

IDENTIFICATION OF LEASES AND TRANSFER OF MANAGEMENT	55
Lease and Well Identification.....	55
Transfer of Management	55
Responsible Ownership Representative.....	55

RULE VII

WASTE PROHIBITED	56-57
Avoidable Waste of Gas.....	56
Escape of Unburned Gas Prohibited.....	56
Burn-off Pits	56-57
Lease Tank Reservoirs	57
Fire Hazards at Well Locations.....	57

RULE VIII

PROTECTION OF WORKABLE COAL BEDS	58-63
Workable Coal Beds Defined	58
Mining Board May Determine Presence of Coal Seams.....	58-59
Well Locations Prohibited	59
Notice to Mining Board	59
Casing and Protective Work	59
Operational Requirements Over Active Mine.....	59
Mining Board to Determine Safety Factors.....	59-60
Drilling Methods and Procedure.....	60
General	60
Mine Protective String	60-61
Cementing Oil String	61
Temperature Survey Required	62

	Page
Shooting Wells Over Active Mines or Worked Out	
Portions of Active Mines	62
Shot Less Than Fifty Quarts.....	62
Shot Exceeding Fifty Quarts.....	63

RULE IX

AVOIDANCE OF FRESH WATER POLLUTION AND DISPOSAL OF SALT WATER OR OTHER LIQ- UIDS TO PREVENT WASTE AS DEFINED IN THE ACT	64-68
Disposal in Underground Stratum.....	64
Disposal in Earthen Pits	64
New Pits	64-65
Existing Pits	65-66
Pipes to be Kept in Repair.....	66
Slush and Mud Pits	66
Rotary Drilling Procedure	66-67
Cable Tool Drilling Rules	67
Mining Board Supervision	68
Yearly Inspection of Pits—Revocation of Permits— Orders for Corrective Action and Other Disposal.....	68

RULE X

VACUUM	69-70
Application for Use of Vacuum.....	69
Notice and Hearing on Application.....	69-70
Mining Board Authority.....	70

RULE XI

PLUGGING OF WELLS	71-79
Mining Board Supervision.....	71
When Well to be Plugged.....	71-72
Prior Notice to Mining Board Representative.....	72
Owner to Furnish Well Log.....	72-73
Plugging Methods and Procedures.....	73
Generally	73
Protection of Coal Seams.....	74
Shooting Casing in Rotary Hole.....	74-75
In Wells Drilled with Cable Tools.....	75-76
When Casing Left in Hole.....	76
Foreign Material Prohibited	76
Plugging Bridged Hole	76-77
Converting to Water Well	77
Restoration of Surface	77-78
Extension of Time to Plug Well.....	78-79
Filing Plugging Affidavit	79

RULE XI-A

SEALING OF ABANDONED WATER WELLS	80-87
General	80-82
Wells in Unconsolidated Formations.....	82-83
Wells Extending into Creviced Rock Formations.....	83
Wells Extending into Noncreviced Rock Formations.....	83-84
Wells Extending into More than One Aquifer	84
Wells with Artesian Flow	84-85
Sealing Materials	85-86
When Well to be Sealed	86
Filing Affidavit	87

RULE XII

VALIDITY OF RULES AND REGULATIONS.....	88
MINING BOARD FORMS.....	89

“An Act in relation to oil, gas, coal and other surface and underground resources.”

BE IT ENACTED BY THE PEOPLE OF THE STATE OF ILLINOIS, REPRESENTED IN THE GENERAL ASSEMBLY:

Sec. 1. Unless the context otherwise requires, the words defined in this Section have the following meanings as used in this Act.

“Person” means any natural person, corporation, association, partnership, receiver, trustee, guardian, executor, administrator, fiduciary or representative of any kind.

“Oil” means natural crude oil or petroleum and other hydrocarbons, regardless of gravity, which are produced at the well in liquid form by ordinary production methods or by the use of an oil and gas separator and which are not the result of condensation of gas after it leaves the underground reservoir.

“Gas” means all natural gas, including casing-head gas, and all other natural hydrocarbons not defined above as oil.

“Pool” means a natural, underground reservoir containing, in whole or in part, a natural accumulation of oil or gas, or both. Each productive zone or stratum of a general structure, which is completely separated from any other zone or stratum in the structure, is deemed a separate “pool” as used herein.

“Field” means the same general surface area which is underlaid or appears to be underlaid by one or more pools.

“Owner” means the person who has the right to drill into and produce from any pool, and to appropriate the production either for himself or for himself and another, or others.

“Manager” means the operator, whether the owner or not, of a well or wells drilled for oil or gas, or both.

“Department” means the Department of Mines and Minerals. “Director” means the Director of the Department of Mines and Minerals.

“Mining Board” means the State Mining Board in the Department of Mines and Minerals.

“Waste” means “physical waste” as that term is generally understood in the oil and gas industry; and further includes:

(1) the locating, drilling and producing of any oil or gas well or wells drilled contrary to the valid order, rules and regulations adopted by the Mining Board under the provisions of this Act.

(2) permitting the migration of oil, gas, or water from the stratum in which it is found, into other strata, thereby ultimately resulting in the loss of recoverable oil, gas, or both;

(3) the drowning with water of any stratum or part thereof capable of producing oil or gas, except for secondary recovery purposes;

(4) the unreasonable damage to underground, fresh or mineral water supply, workable coal seams, or other mineral deposits in the operations for the discovery, development, production, or handling of oil and gas;

(5) the unnecessary or excessive surface loss or destruction of oil or gas resulting from evaporation, seepage, leakage or fire, especially such loss or destruction incident to or resulting from the escape of gas into the open air, provided, however, it shall not be unlawful for the operator or owner of any well producing both oil and gas to burn such gas in flares when such gas is, pursuant to the other provisions of this Act, lawfully produced, and where there is no market at the well for such escaping gas; and where the same is used for the extraction of casinghead gas, it shall not be unlawful for the operator of the plant after the process of extraction is completed, to burn such

residue in flares when there is no market at such plant for such residue gas;

(6) permitting unnecessary fire hazards;

(7) permitting unnecessary damage to or destruction of the surface, soil, animal, fish or aquatic life or property from oil or gas operations.

“Drilling Unit” means the surface area allocated by an order or regulation of the Mining Board to the drilling of a single well for the production of oil or gas from an individual pool.

Sec. 1.1. Waste as defined by this Act is prohibited.

Sec. 1.2. The Oil and Gas Board, in the Department of Mines and Minerals, shall be subject to call of the Mining Board for advice and consultation concerning:

1. The interpretation of rules, regulations, and laws affecting the conservation of oil and gas.

2. The promulgation of new rules and regulations pertaining to the conservation of oil and gas.

3. Technical information and operations concerning the improvement of methods, conditions, and equipment for the production of oil and gas.

4. The proper drilling, casing and plugging of oil wells.

5. The issuing of proper permits to drill oil and gas wells.

6. Any and all other subjects about which the Mining Board should seek information in relation to the oil and gas industry, except in situations involving drilling or operations through veins or seams of mineable coal, in which situations the entire authority and discretion shall remain in the Mining Board.

Sec. 2. The provisions of this Act do not apply to mine or quarry drill or blast holes, nor to seismograph test holes, or to holes drilled to explore strippable coal.

The provisions of this Act do not apply to geological or structure test holes, except that notification of intent to drill shall be filed with the

Mining Board, and permit shall be obtained as provided in clause (2) of Section 6 of this Act and except that all geological or structure test holes drilled below the glacial drift shall be plugged under the supervision of the Mining Board.

Sec. 2.1. The provisions of this Act do not apply to wells drilled for water (not including wells drilled or used for the purpose of obtaining or prospecting for oil, natural gas, minerals or products of mining or quarrying or for inserting media to repressure oil or natural gas bearing formation or for storing petroleum, natural gas or other products or for observation or any other purpose in connection with the development or operation of a gas storage project), except that any well drilled for water which is at any time abandoned shall be plugged as provided in clause (1) of Section 6 and in Section 19 of this Act, and any violation or threatened violation of such sections shall be restrained as provided in Section 11, and except that notification of intent to drill any water well shall be filed with the Board in such form as the Board may prescribe and, in the case of wells drilled for water which penetrate the sub-surface below the glacial drift, a permit shall be obtained as provided in clause (2) of Section 6 of the Act and shall be accompanied by payment of a fee of \$10.00 in the form provided in Section 14 of this Act, such permit to expire one year from the date of issuance thereof; provided, that nothing herein requires that any person filing notification of intent to drill a water well or applying for a permit to drill a water well penetrating the sub-surface beneath the glacial drift is required to execute or file with the Mining Board a bond in any amount.

Sec. 3. The Mining Board shall be charged with the duty of enforcing this Act and all rules, regulations and orders promulgated in pursuance of this Act.

The Mining Board may authorize, in writing, any employee of the Department, qualified by training and experience, to perform in the Board's stead the powers and duties set forth in this Act, which do not require the exercise of administrative discretion.

Sec. 4. The Mining Board shall have jurisdiction and authority over all persons and property necessary to enforce effectively the provisions of this Act.

Sec. 5. The Mining Board shall have the authority and it shall be its duty, to employ all necessary personnel to carry out the provisions of this Act; to fix their compensation; to designate their headquarters and to define their duties. The aforesaid personnel shall be subject to the provisions of the "Personnel Code," enacted by the 69th General Assembly.

Sec. 6. The Mining Board shall have the authority to call hearings, to make, after hearing and notice as hereinafter provided, such reasonable rules, regulations, and orders as may be necessary from time to time in the proper administration and enforcement of this Act, including Rules, Regulations and Orders for the following purposes: (1) to require the drilling, casing and plugging of wells to be done in such a manner as to prevent the migration of oil, gas, or water from one stratum to another; to prevent the intrusion of water into oil, gas or coal strata; to prevent the pollution of fresh water supplies by oil, gas or salt water, (2) to require the person desiring or proposing to drill any well in search of oil, gas, or water, before commencing the drilling of any such well, to make application to the Mining Board upon such form as the Mining Board may prescribe and to comply with the following provisions, viz: The drilling of any well is hereby prohibited until such application is made and the applicant is entitled to a permit therefor as provided by this Act; each application for a well permit shall in-

dicatc the exact location of such well, the name and address of the manager, operator, contractor, driller, or any other person responsible for the conduct of drilling operations, the proposed depth of the well, and such other relevant information not involving ownership as the Mining Board may deem necessary or convenient to effectuate the purposes of this Act; each applicant previous to drilling for oil or gas or any other purpose in connection therewith, and each manager or operator who has acquired or may hereafter acquire any well drilled for these purposes which has not theretofore been plugged and abandoned in accordance with the laws, rules, regulations and orders of the Mining Board, shall execute and file with the Mining Board a bond of \$1,000.00 for each of such wells, or in lieu thereof, a blanket bond in the sum of \$2,500.00 for all wells, provided that, nothing herein shall be construed to require more than one bond for such well at any one time, although successive bonds may be required until the well is abandoned and plugged; and each of such bonds shall be approved by the Mining Board on a form to be prescribed by the Mining Board, and shall provide for the compliance of plugging such well, or wells, the filling of all excavations, the removal of all concrete bases, discarded machinery and material, and restoring the surface as nearly as possible to its former condition before such well, or wells, was drilled; and such bond shall be renewed and be continued in effect until the aforesaid conditions have been fully complied with. In event of the assignment and transfer of the property covered by any bond, it shall remain in full force and effect until the approval by the Mining Board of a similar bond which has been executed by the new owner and filed with it. (3) To require the filing of logs, including electric logs, and drilling records, and the lodgment in the office of the State Geological Survey of typical drill cuttings or cores, if cores are taken, within 30 days from the time of

the completion of any well. (4) To prevent "blow-outs," "caving" and "seepage" in the same sense that conditions indicated by such terms are generally understood in the oil and gas business. (5) To prevent fires. (6) To ascertain and identify the ownership of all oil and gas wells, producing leases, refineries, tanks, plants, structures, and all storage and transportation equipment and facilities. (7) To regulate the secondary recovery in oil pools and oil fields. (8) To regulate or prohibit the use of vacuum. (9) To regulate the spacing of wells, the issuance of permits, and the establishment of drilling units. (10) To regulate directional drilling of oil or gas wells. (11) To regulate the plugging of wells. (12) To require that wells for which no logs or unsatisfactory logs are supplied shall be completely plugged with cement from bottom to top. (13) To require a description in such form as is determined by the Mining Board of the method of well plugging for each well, indicating the character of material used and the positions and dimensions of each plug. (14) To prohibit waste, as defined in this Act. (15) To require the furnishing of such relevant information as the Mining Board may from time to time deem necessary or convenient to carry into effect the purposes of this Act.

For the purposes of this Act, the State Geological Survey shall co-operate with the Mining Board in making available its scientific and technical information on the oil and gas resources of the State, and the Mining Board shall in turn furnish a copy to the State Geological Survey of all drilling permits as issued, and such other drilling and operating data received or secured by the Mining Board which are pertinent to scientific research on the State's mineral resources.

Whenever rules, regulations or orders are mentioned in this Act, such terms have no application to any action by the Mining Board for the management of the internal affairs thereof.

Sec. 6.1. When the applicant has complied with all applicable provisions of this Act and the rules and regulations adopted by the Mining Board pursuant thereto concerning application for and the issuance of permits for the drilling of a well for oil or gas purposes upon a unit established under such rules, regulations and orders of the Mining Board, the Mining Board shall issue the permit.

Sec. 7. The Mining Board shall have the right at all times to go upon and inspect oil and gas properties from which oil or gas is being produced, or where drilling operations have been or are being conducted for the purpose of ascertaining whether the provisions of this Act and the Orders, Rules and Regulations made in pursuance of this Act are being complied with.

Sec. 8. The Mining Board shall have the authority and it shall be its duty to make such inquiries as it may think proper to determine whether or not waste, over which it has jurisdiction, exists or is imminent. In the exercise of such power the Mining Board shall have the authority to collect data; to make investigation and inspections; to examine properties, including drilling records and logs; to examine, check and test oil and gas wells; to hold hearings; and to take such action as may be reasonably necessary to enforce this Act.

Sec. 8A. The Mining Board shall have the power and authority to regulate the disposal of salt or sulphur-bearing water and any oil field waste produced in the operation of any oil or gas well, and to adopt proper rules and regulations relative thereto.

Sec. 8B. No person shall drill, convert or deepen a well for the purpose of injecting gas, air, water or other liquid into any underground formation or strata without first securing a permit therefor. Such permit shall be obtained as provided in clause (2) of Section 6 and is subject to the fee prescribed in Section 14. The Mining

Board may prescribe appropriate rules and regulations to implement this Section and to prevent waste, as defined in this Act, in connection with such wells.

Sec. 9. (a) The Mining Board shall prescribe rules of order for procedure in hearings or other proceedings before it under this Act. (b) No rule, regulation or order, including change, renewal or extension thereof, shall, in the absence of an emergency, be made by the Mining Board under the provisions of this Act except after a public hearing upon at least ten days' notice given in the manner and form as may be prescribed by the Mining Board. Such public hearing shall be held at such time, place and in such manner as may be prescribed by the Mining Board and any person having any interest in the subject matter of the hearing shall be entitled to be heard. (c) In the event an emergency is found to exist by the Mining Board which requires the making, changing, renewal, or extension of a Rule, Regulation or Order without first having a hearing, such emergency rule, regulation or order shall have the same validity as if a hearing with respect to the same had been held after due notice. The emergency rule, regulation or order permitted by this subsection shall remain in force no longer than fifteen days from its effective date, and, in any event, it shall expire when the rule, regulation or order made after due notice and hearing with respect to the subject matter of such emergency Rule, Regulation or Order becomes effective.

(d) All Rules, Regulations and Orders made by the Mining Board shall be in writing and shall be entered in full in a book to be kept for such purpose by the Mining Board, which shall be a public record and open to inspection at all times during reasonable office hours. A copy of such Rule, Regulation, or Order, certified by the executive officer of the Mining Board, shall be received in evidence in all courts of this State with the same effect as the original. (e) Any interested person shall have the

right to have the Mining Board call a hearing for the purpose of taking action in respect to any matter within its jurisdiction by making a request therefor in writing. Upon the receipt of any such request the Mining Board promptly shall call a hearing thereon, and, after such hearing, and with all convenient speed and in any event within thirty (30) days after the conclusion of such hearing, shall take such action with regard to the subject matter thereof as it may deem appropriate.

Sec. 10. Any interested person affected by this Act or by any Rule, Regulation or Order made or promulgated by the Mining Board hereunder, who may be dissatisfied therewith, shall have the right to file a suit in the Circuit Court of the county wherein is situated any part of the land which is the subject matter of such action, to test the validity of any provision of this Act or any Rule, Regulation or Order made or promulgated hereunder. Such suit shall be advanced for trial and be determined as expeditiously as feasible, and no postponement, or continuance thereof shall be granted except for reasons deemed imperative by the court. In such trials, the burden of proof shall be upon the party complaining of the validity of this Act or any provision thereof or any Rule, Regulation or Order made or promulgated hereunder and any such Rule, Regulation or Order so complained of shall be deemed prima facie valid. An appeal may be taken from the ruling of the court as in other civil actions.

Sec. 11. Whenever it shall appear that any person is violating or threatening to violate any provision of this Act, or any Rule, Regulation or Order made hereunder, and unless the Mining Board, without litigation, can effectively prevent further violation or threat of violation, then the Mining Board, through the Attorney General, who may call to his assistance the State's Attorney of the county in which suit is instituted, shall bring suit in the name of the people of the State of Illinois against such

person in the circuit court of the county wherein is situated any part of the land which is the subject matter of such action, to restrain such person from continuing such violation or from carrying out the threat of violation. In such suit the Mining Board, in the name of the People of the State of Illinois, may obtain such injunctions, prohibitory and mandatory, including temporary restraining orders and temporary injunctions, as the facts may warrant.

Sec. 12. Before any drilling or deepening for oil or gas is done it shall be the duty of the person, having the custody or control of any land upon which he desires to drill, to secure from the Mining Board a permit for such drilling.

Sec. 13. Where an application is made to drill or deepen an oil or gas well within the limits of any city, village or incorporated town, the application shall so state, and be accompanied with a certified copy of the official consent of the municipal authorities for said well to be drilled, and no permit shall be issued unless consent is secured and filed with the application. In the event that an amended location is selected, the original permit shall not be valid unless a new certified consent is filed for the amended location.

Sec. 14. Each application for permit to drill, deepen or convert shall be accompanied by a bank draft, check, or post office or express money order for forty dollars (\$40.00) payable to the State of Illinois, same to be deposited with the Treasurer of the State of Illinois, except that there is no fee for geological or structure test holes or water supply wells.

Sec. 15. Any permit to drill a well for oil or gas shall expire one year from the date of issuance unless acted upon prior thereto by the commencement of drilling operations which are to be continued with due diligence. It shall in all respects be sub-

ject to the provisions of this Act and the rules, regulations, limitations and penalties herein provided or which may hereafter be adopted for the drilling, operation or plugging of oil or gas wells, or other drilling operations.

Sec. 16. Every owner or operator of any oil or gas well may appoint a person to act as his Attorney in fact to execute applications for permits to drill oil or gas wells, or any wells in connection therewith, and to execute bonds and any other papers relative to such permits. Such owner or operator shall file with the Mining Board a properly executed power of attorney on a form acceptable to the Mining Board. Every person so appointing an Attorney in fact shall, within five days after the termination of any such appointment, notify the Mining Board in writing of such termination.

Sec. 17. In case any person drilling an oil or gas well shall request a location over a portion of the coal where mining operations have not heretofore been conducted and where coal is in place, then said well shall be drilled and sunk with due regard for the plans for future development and extensions of said seams.

Sec. 18. In no event shall any high explosive be exploded in any well until twenty-four hours' notice of the intention has been given to the owner of any working coal seam.

Sec. 19. If when a well is sunk and there is no oil, gas, or water found and such hole is what is commonly known as a "barren well" or "dry hole," or when a well is abandoned, then such hole shall be plugged in accordance with Rules and Regulations and Orders formulated in pursuance of the provisions of this Act. The Mining Board shall have power to determine what constitutes abandonment.

Sec. 20. No oil or gas well shall be drilled hereafter nearer than 250 feet to any opening to a working coal mine used as a means of ingress or

egress for the persons employed therein or which is used as an air shaft, except by mutual agreement between the person owning or operating the mine and the oil or gas operator.

Sec. 21.1. (a) The Mining Board is authorized to issue permits for the drilling of wells and to regulate the spacing of wells for oil and gas purposes. For the prevention of waste, to protect and enforce the correlative rights of owners in the pool, and to prevent the drilling of unnecessary wells, the Mining Board shall, upon application of any interested person and after notice and hearing, establish a drilling unit or units for the production of oil and gas or either of them for each pool, provided that no spacing regulation shall be adopted nor drilling unit established which requires the allocation of more than 40 acres of surface area nor less than 10 acres of surface area to an individual well for production of oil from a pool the top of which lies less than 4,000 feet beneath the surface (as determined by the original or discovery well in the pool), provided, however that the Mining Board may permit the allocation of greater acreage to an individual well than that above specified, and provided further that the spacing of wells in any pool the top of which lies less than 4,000 feet beneath the surface (as determined by the original or discovery well in the pool) shall not include the fixing of a pattern except with respect to the 2 nearest external boundary lines of each drilling unit, and provided further that no acreage allocation shall be required for input or injection wells nor for producing wells lying within a secondary recovery unit as now or hereafter established.

(b) Drilling units shall be of approximately uniform size and shape for each entire pool, except that where circumstances reasonably require, the Mining Board may grant exceptions to the size or shape of any drilling unit or units. Each order establishing drilling units shall specify the

size and shape of the unit, which shall be such as will result in the efficient and economical development of the pool as a whole, and subject to the provisions of subsection (a) hereof the size of no drilling unit shall be smaller than the maximum area that can be efficiently and economically drained by one well. Each order establishing drilling units for a pool shall cover all lands determined or believed to be underlaid by such pool, and may be modified by the Mining Board from time to time to include additional lands determined to be underlaid by such pool. Each order establishing drilling units may be modified by the Mining Board to change the size thereof, or to permit the drilling of additional wells.

(c) Each order establishing drilling units shall prohibit the drilling of more than one well on any drilling unit for the production of oil or gas from the particular pool with respect to which the drilling unit is established and subject to the provisions of subsection (a) hereof shall specify the location for the drilling of such well thereon, in accordance with a reasonably uniform spacing pattern, with necessary exceptions for wells drilled or drilling at the time of the application. If the Mining Board finds, after notice and hearing, that surface conditions would substantially add to the burden or hazard of drilling such well at the specified location, or for some other reason it would be inequitable or unreasonable to require a well to be drilled at the specified location, the Mining Board may issue an order permitting the well to be drilled at a location other than that specified in the order establishing drilling units.

(d) After the date of the notice for a hearing called to establish drilling units, no additional well shall be commenced for production from the pool until the order establishing drilling units has been issued, unless the commencement of the well is authorized by order of the Mining Board.

(e) After an order establishing a drilling unit or units has been issued by the Mining Board, the commencement of drilling of any well or wells into the pool with regard to which such unit was established for the purpose of producing oil or gas therefrom, at a location other than that authorized by the order, or by order granting exception to the original spacing order, is hereby prohibited. The operation of any well drilled in violation of an order establishing drilling units is hereby prohibited.

Sec. 22.2. (a) When 2 or more separately owned tracts of land are embraced within an established drilling unit, or when there are separately owned interests in all or a part of such units, the owners of all oil and gas interests therein may validly agree to integrate their interests and to develop their lands as a drilling unit. Where, however, such owners have not agreed to integrate their interests and where no action has been commenced seeking permission to drill pursuant to the provisions of "An Act in relation to oil and gas interests in land", approved July 1, 1939, as heretofore or hereafter amended, the Mining Board shall, for the prevention of waste or to avoid the drilling of unnecessary wells, require such owners to do so and to develop their lands as a drilling unit, before issuing a permit for the drilling thereon. The Mining Board, as a part of the order establishing a drilling unit or units, may prescribe the terms and conditions upon which the royalty interests in the unit or units shall, in the absence of voluntary agreement, be determined to be integrated without the necessity of a subsequent separate order integrating the royalty interests. Each such integration order shall be upon terms and conditions that are just and reasonable.

(b) All orders requiring such integration shall be made after notice and hearing and shall be upon terms and conditions that are just and rea-

sonable and will afford to the owners of all oil and gas interests in each tract in the drilling unit the opportunity to recover or receive their just and equitable share of oil or gas from the drilling unit without unreasonable expense and will prevent or minimize reasonably avoidable drainage from each integrated drilling unit which is not equalized by counter drainage, but the Mining Board may not limit the production from any well under this provision.

(c) All operations, including, but not limited to, the commencement, drilling, or operation of a well upon any portion of a drilling unit shall be deemed for all purposes the conduct of such operations upon each separately owned tract in the drilling unit by the several owners thereof. That portion of the production allocated to a separate owned tract included in a drilling unit shall, when produced, be deemed, for all purposes, to have been actually produced from such tract by a well drilled thereon.

(d) Each such integration order shall authorize the drilling, equipping, and operation, or operation, of a well on the drilling unit; provide who may drill and operate the well; prescribe the time and manner in which all the owners in the drilling unit may elect to participate therein; and make provision for the payment by all those who elect to participate therein of the reasonable actual cost thereof, plus a reasonable charge for supervision and interest. If requested, each such integration order shall further provide for one or more just and equitable alternatives whereby an owner who does not elect to participate in the risk and cost of the drilling and operation, or operation, of a well may elect to surrender his leasehold interest to the participating owners on some reasonable basis and for a reasonable consideration which, if not agreed upon, shall be determined by the Mining Board, or may elect to participate in the drilling and operation, or op-

eration, of the well, on a limited or carried basis upon terms and conditions by the Mining Board to be just and reasonable. If one or more of the owners shall drill, equip, and operate, or operate, or pay the costs of drilling, equipping, and operating, or operating, a well for the benefit of another person as provided for in an order of integration, then such owner or owners shall be entitled to the share of production from the drilling unit accruing to the interest of such other person, exclusive of a royalty not to exceed $\frac{1}{8}$ of the production, until the market value of such other person's share of the production, exclusive of such royalty, equals (1) 100% of such other person's share of the costs and expenses of all surface equipment and 100% of each such person's share of the cost of operating the well commencing with the first production, and 150% or (2) 200% of such person's share of the actual costs and expenses of drilling, testing and completing said well. In instances where a well is completed prior to the integration of interests in a drilling unit the sharing of production shall be from the effective date of the integration except that in calculating costs credit shall be given for the value of such owner's share of any prior production from the well.

Sec. 23.1. The owner or owners of any tract of land which is productive or capable of being productive of oil or gas or any owner or operator of an oil and gas leasehold on which productive wells are situated, under a lease authorizing the lessee or his assigns to explore for and remove oil and gas, from any sand, strata, or formation, shall be permitted, in the interest of oil and gas conservation, to introduce and inject air, gas, water, or other fluid under pressure upon such sand, strata or formation, for the purpose of recovering the oil and gas contained therein; provided, that the owner or operator of a well into which water or other fluid is to be introduced into the sand, strata, or formation, shall make a written application to the

Mining Board for authority so to do, and provided that written approval has been granted him by the Mining Board; and provided further that the operation shall be done under the rules and regulations of the Mining Board; and further provided, that such introduction or injection of air, gas, water or other liquid under pressure upon or into such sand, strata or formation shall not be deemed to be an unlawful act.

Sec. 23.2. (a) When two or more separately owned tracts of land are embraced within a pool or a portion of a pool suitable for secondary recovery methods, the owners thereof may validly agree to integrate their interest therein and to develop their land as a unit, and production from any tract in such established unit shall be regarded as production from all presently owned tracts or interests within such units.

(b) Agreements made in the interest of conservation of oil or gas, or both, or the prevention of waste, between and among owners or operators, or both, owning separate holdings in the same oil or gas pool, or in any area that appears from geological or other data to be underlain by a common accumulation of oil or gas, or both, or between and among such owners or operators, or both, and royalty owners therein, of a pool or area, or any part thereof, as a unit for establishing and carrying out a plan for the cooperative development and operation thereof, when such agreements are approved by the Mining Board, are hereby authorized and shall not be held or construed to violate any of the statutes of this State relating to trusts, monopolies or contracts and combinations in restraint of trade.

Sec. 25. No power herein granted to prevent waste shall be interpreted or construed as authorizing limitation of production of any well, wells, lease, leases, pool, field or properties to prevent or control economic waste or limit production to market demand.

Exploration and discovery of new and additional pools, fields and producing horizons are vital and the effect and administration of this Act shall be in accordance therewith and not contrary thereto. Any Rule, Regulation or Order issued under the general powers of this Act in violation of the provisions of this Section shall be void and of no effect.

Sec. 26. (a) Any person who violates any provision of this Act or who, after notice of any valid rule, regulation or order of the Mining Board made hereunder, violates, repeats or continues the violation thereof, shall be subject to a fine of not to exceed \$100 a day for each and every act of violation.

(b) Any person willfully aiding or abetting any other person in the violation of any provision of this Act, or any rule, regulation and order made hereunder, shall be subject to the same penalties as are prescribed herein for the violation by such other person.

Sec. 27. "An Act in relation to sinking, filling and operating of wells for oil, gas, water or other purposes," approved May 16, 1905, as amended, is repealed.

Sec. 28. If any section, paragraph, sentence or phrase of this Act shall be declared unconstitutional, or void for any reason by any court of final jurisdiction, such fact shall not in any manner invalidate or affect any other section, paragraph, sentence or phrase of this Act, but the same shall continue in full force and effect.

Effective July 12, 1951.

An Act concerning the production of oil and gas.

Whereas, in order to promote the development, production and utilization of the natural resources of oil and gas within the State of Illinois, it is in the public interest to encourage, authorize, and

provide for the maximum recovery of oil and gas in the State, by the use and employment of fluid injection into productive oil and gas formations, including the use of secondary recovery methods, and also including cycling and recycling of gas, pressure maintenance, repressuring, and injection of air, gas, water and other fluids into productive horizons or strata, and to declare the law of the State in regard thereto, therefore:

BE IT ENACTED BY THE PEOPLE OF THE STATE OF ILLINOIS, REPRESENTED IN THE GENERAL ASSEMBLY:

Section 1. It is hereby declared to be the law of the State of Illinois that the grant in an oil and gas lease or contract to a lessee or operator of the right or power, in substance, to explore for and remove all oil and gas from any lands in the State of Illinois, in the absence of an express provision to the contrary therein contained, includes the right of the lessee, or his heirs or assigns, to do what a prudent operator using reasonable diligence, would do having in mind the best interests of the lessor and lessee, in producing and removing oil and gas, and includes the use of practices and methods employed by the oil and gas industry, including the injection of air, gas, water and other fluids into the productive formations or strata, and cycling and recycling of gas, when done upon the authority of and under the Rules, Regulations and Orders of the Department of Mines and Minerals of the State of Illinois, as heretofore created or other Department or Commission hereafter created and authorized by law hereafter to administer the laws relating to the production of oil or gas, or both, in the State of Illinois.

Effective July 11, 1951.

An Act to amend Section 221 of Division I of "An Act to revise the law in relation to criminal jurisprudence" approved March 27, 1874, as amended.

BE IT ENACTED BY THE PEOPLE OF THE STATE OF ILLINOIS, REPRESENTED IN THE GENERAL ASSEMBLY:

Section 1. Section 221 of Division I of "An Act to revise the law in relation to criminal jurisprudence," approved March 27, 1874, as amended, is amended to read as follows:

DIVISION I.

Sec. 221. It is a public nuisance:

* * *

10. To permit any well drilled for oil, gas, salt water disposal or any other purpose in connection with the production of oil and gas, to remain unplugged, after such well is no longer used for the purpose for which it was drilled.

11. To construct or operate any salt water pit or oil field refuse pit, commonly called a "burn out pit", so that salt water, brine or oil field refuse or other waste liquids may escape therefrom in any manner except by the evaporation of such salt water or brine or by the burning of such oil field waste or refuse.

12. To permit concrete bases, discarded machinery and materials to remain around any oil or gas well, or to fail to fill any holes, cellars, slush pits and other excavations made in connection with any such well or to restore the surface of the lands surrounding any such well to its condition before the drilling of any such well, upon abandonment of any such oil or gas well.

13. To permit any salt water, oil, gas, or other wastes from any well drilled for oil, gas, or exploratory purposes to escape to the surface, or into a mine or coal seam, or into any underground fresh water supply, or from one underground stratum to another.

Effective July 23, 1943.

RULES AND REGULATIONS
of the
DEPARTMENT OF MINES AND MINERALS
for the
OIL AND GAS DIVISION

(Approved and adopted November 7, 1951, and amended February 1, 1960, April 1, 1964, and December 23, 1966.)

In order to properly administer and enforce the provisions of an Act of the General Assembly of the State of Illinois entitled

“An Act in Relation to Oil, Gas, Coal and other Surface and Underground Resources, and to Repeal an Act Herein Named” filed July 29, 1941, as amended by an Act approved July 24, 1945 and as amended by an Act approved July 12, 1951, and as further amended by an Act approved July 22, 1959, as amended by an Act approved August 10, 1964, as amended by an Act approved April 20, 1967 and as further amended by an Act approved May 1, 1967.”

and to prevent waste as defined in said Act as amended, to promote the maximum ultimate recovery of oil and gas from the various pools, fields and reservoirs in the State of Illinois and to protect the vested or co-equal rights of the owners of oil, gas, coal and other surface and underground resources, the following Rules and Regulations are hereby adopted and promulgated by the Department of Mines and Minerals of the State of Illinois.

RULE 1

GENERAL PROVISIONS

(1) DEFINITIONS

“THE ACT”—When used herein shall refer to and mean the provisions of the aforementioned Act of the General Assembly of the State of Illinois, as amended.

“CEMENT”—As used herein shall mean Portland or “neat” cement.

“CONVERT”—Shall mean to change an oil or gas producing well, or a temporarily abandoned well to a well for injection of gas, air, water or other liquids, or any combination thereof, or to change an injection well to an oil or gas producing well.

“MINING BOARD REPRESENTATIVE”—When used herein shall mean any employee of the Department of Mines and Minerals of the State of Illinois, who is qualified by training and experience, and is authorized by the Director in writing, to perform in his stead the powers and duties set forth in the aforementioned Act, which do not require the exercise of administrative discretion or that may be prescribed by the Rules, Regulations or Orders of the Mining Board adopted or promulgated pursuant thereto.

“DEVELOPMENT”—Shall mean any work or operation on or appurtenant to the oil and gas leasehold premises, which actively looks toward the drilling of wells for oil or gas, or the discovery of or bringing in production.

“LEASE TANK”—Shall mean the tank or other receptacle into which oil is produced either directly from a well or from a well

through a gas separator, gun barrel or similar equipment.

“LOG”—Shall mean the systematic detailed written record correctly describing the strata and formations progressively encountered in the drilling of a well for oil or gas, including water, oil and gas formations or other underground resources, with such additional data as is usually recorded in the normal procedure of drilling, including electric surveying or logging.

“MUD-LADEN FLUID”—Shall mean any approved mixture of water and clay or other suitable material as the term is commonly used in the industry which will effectively seal the formation to which it is applied.

“PLUG OR PLUGGING”—Shall mean the abandoning of a producing, nonproductive or nonoperative well; or the stopping of the flow of oil, gas, or water in a well.

“OIL STRING”—Shall mean that string of casing placed in a well and used for the purpose of segregating the horizon or formation from which production is obtained and affording a means of bringing the oil or gas from such productive horizon or formation to the surface.

“REPRESSURE”—Shall mean to increase the reservoir pressure by the introduction of gas, air or water or other fluid into the reservoir.

“ROTARY DRILLING”—Shall mean the hydraulic process of drilling a well for oil or gas as such method is commonly used in the industry.

“SHOOTING”—Shall mean the exploding of nitroglycerin or other high explosives in a well hole for the purpose of discovering or increasing the production of oil or gas therefrom or in perforating or parting the pipe therein.

“SPECIAL MUD MATERIALS”—Shall mean weighting material such as barium sulphate,

Bentonitic clays, salt-resistant clays, filtration reduction agents and fibrous materials.

“UNDEVELOPED LIMITS OF A MINE”—The undeveloped limits of a mine are that portion of a mine where the entries have not been driven to the boundaries of the mine property.

“VACUUM”—Shall mean pressure which is reduced below the pressure of the atmosphere.

“WASTE LIQUIDS”—Shall mean oil field brines, cut oil, bottom sediments, concentrated sulphur water and acid waters.

“WELL”—Shall mean any well drilled for the purpose of discovering oil or gas, or any other purpose in connection with the exploration and production of the same including gas, air and water input wells.

“DIRECTIONAL DRILLING” — Shall mean the controlled directional drilling when the bottom of the well bore is directed away from the vertical position.

“DRILLING UNIT”—Shall mean the surface area allocated by an order or regulation of the Mining Board to the drilling of a single well for the production of oil or gas from an individual pool.

“PATTERN FLOOD”—Shall mean a definite geometric arrangement of the input wells and the producing oil wells with a constant distance between the input and oil wells for any definite pattern.

“FRESH WATER”—For purposes of this Act, fresh water shall mean water having five (5) parts per one thousand (1,000) total dissolved solids or less.

“SECONDARY RECOVERY”—shall mean the recovery obtained by any method whereby oil and gas is produced by augmenting the natural reservoir energy.

(2) PREVENTION OF WASTE

All owners, managers, contractors, drillers, service companies, pipe pulling and salvage contractors or other persons drilling, casing or plugging oil or gas wells in this State shall at all times conduct their operations, and drill, case, plug and abandon the same in the manner set forth by the Act or as hereinafter provided, so as to prevent waste or the escape of oil or gas out of one stratum to another, prevent the intrusion of water into oil, gas, or coal strata, and prevent the pollution of fresh water supplies by oil, gas, salt water, or sulphur-bearing water.

(3) JURISDICTION

As provided in the Act, the Mining Board shall have jurisdiction and authority over all persons and property necessary to enforce effectively the provisions of the Act.

(4) ENFORCEMENT OF ACT

The Mining Board of the Department of Mines and Minerals of the State of Illinois, being charged with the duty of enforcing the provisions of the Act and all valid Rules, Regulations and Orders adopted and promulgated pursuant thereto, may enforce or cause same to be enforced by action initiated by the Oil and Gas Division of the Department of Mines and Minerals.

(5) DELEGATION OF AUTHORITY

The Mining Board may authorize in writing any employee of the Department (herein designated Mining Board Representative) qualified by training and experience, to perform in his stead the powers and duties set forth in the Act, which do not require the exercise of administrative discretion, or that may be prescribed by the Rules, Regulations or Orders of the Mining Board adopted and promulgated pursuant thereto.

(6) RIGHT OF INSPECTION

Any authorized Mining Board Representative shall have the right at all times to go upon and inspect any oil and gas leasehold premises or property where drilling operations are or have been conducted, or from which oil or gas is being produced, for the purpose of making any investigation or tests to ascertain whether the provisions of the Act or the Rules, Regulations or Orders of the Mining Board are being complied with, and shall make due and timely report of any violation thereof.

(7) RIGHT OF ACCESS

Any authorized Mining Board Representative shall have access to all well records wherever located. All persons having the custody or jurisdiction of the same shall permit the authorized Mining Board Representative to come upon any leasehold or other premises or property operated or controlled by them and have access at all times to, and inspect records pertaining to the drilling, completion, operation or plugging of any well drilled in this State, provided always that any information so obtained shall be considered confidential, and reported to, and only to, the Oil and Gas Division in the Department of Mines and Minerals; except that, any information so obtained may be presented as evidence in any proceeding concerned with any alleged violation of the Act or any valid Rule, Regulation or Order adopted or promulgated pursuant thereto.

(8) SWORN STATEMENTS

The Mining Board shall require sworn statements or affidavits when it is deemed to be expedient or necessary to effectuate the provisions of the Act. When such sworn statements or affidavits are required the same shall be sworn to before an officer or person authorized to administer oaths in the state where oath is taken.

(9) ADDITIONAL REPORTS

When requested in writing by the Mining Board, any oil well servicing company or other person or persons in the control or custody thereof, shall furnish and file with said Division any reports and records showing gun perforation, squeeze, cementing, shooting or chemical treatment of any well or wells, which information shall also be considered as confidential, except when presented as legal evidence in any court proceedings concerned with any alleged violation of the Act or any valid Rule, Regulation or Order adopted or promulgated pursuant thereto.

(10) WHEN RULES AND REGULATIONS BECOME EFFECTIVE

All rules and regulations herein shall be in full force and effect when adopted and promulgated by the Mining Board, after notice and hearing as provided by the aforementioned Act, except as the same may hereafter be amended, modified, altered or enlarged in the same manner by the Mining Board.

(11) NOTICE OF RULES AND REGULATIONS

When the Mining Board issues any order under its Rules or Regulations, or under the Act, and mails a copy of the same by registered mail to the owner or manager concerned, with return receipt requested, it shall constitute legal notice of any such order of the Mining Board.

(12) FORMS

The Oil and Gas Division of the Department of Mines and Minerals shall prescribe and prepare all forms required under the Rules and Regulations herein and, when requested, shall furnish requisite copies of either thereof to any interested person requiring use of the same.

(13) HEARINGS—NOTICE

The Mining Board shall have authority to call public hearings or private hearings involving interested parties concerning matters pertaining to oil and gas activities.

(A) PUBLIC HEARINGS

A notice of public hearing as provided by the aforementioned Act shall be given by publishing one (1) notice of the time and place thereof in at least five (5) newspapers of general circulation within the main oil-producing counties of Illinois, and such notice shall be published at least ten (10) days prior to the date of such hearing.

(B) PUBLISHER'S CERTIFICATE

Whenever notice of a hearing or Mining Board action is required to be published in a newspaper of general circulation, each publisher of the newspaper publishing said notice shall file with the Mining Board a copy of the published notice with an affidavit setting forth the date such notice was published in said newspaper.

(C) OTHER HEARINGS

A notice of hearings other than public hearings may be given by mailing a notice of the time and place of such hearing, by registered mail or certified mail, with a return receipt requested, to the last known address of all persons concerned in the matter to be heard. Such notice shall be mailed at least ten (10) days prior to the date of the hearing.

In addition to such notice, the Mining Board may publish a notice of such hearing, in one (1) issue, of one (1) or more newspapers in or near the vicinity of the area involved in the matter to be heard.

RULE II

PERMITS

(1) GENERAL PROVISIONS

The drilling, deepening or conversion of a well is prohibited until permit therefor, as required by the Act, has been issued.

All applications for permits shall conform or be subject to the following requirements:

(A) APPLICATION TO BE FILED

All applications for permits shall be signed by the owner or manager or by a person authorized to sign for such owner or manager or by a member of an established firm, partnership, or association. Any person may sign for a corporation who is duly authorized so to do. Persons so authorized shall either sign personally or as Attorney in fact. If such person signs as an Attorney in fact, then a certified copy of the power of attorney shall accompany the application, unless one has been previously filed with the Mining Board.

If the application is signed by the manager, he shall furnish the Mining Board with a signed statement accompanying the application that he is the managing operator of the well and will be solely responsible for any and all violations of the Illinois Statutes and the Mining Board Rules and Regulations in the drilling, testing, completion, operation, and plugging of the well. The manager's responsibility for violations ceases if a new manager is appointed and furnishes the Mining Board with a signed managing operator's statement, as above provided.

(B) COPY OF EVIDENCE OF OWNERSHIP TO BE ATTACHED

No person shall be issued a permit for any purpose unless he has custody and control of the

land involved, either by being the fee owner or by having a valid lease or agreement with the owners of the right to drill for oil and gas on the lands in question, proof of which shall be submitted by the applicant, by either attaching to the application certified copies of the original instruments or photostatic copies thereof, or, at the election of the applicant, by submitting a form to be furnished by the Mining Board, setting forth all such pertinent facts, which shall be subscribed and sworn to by the applicant, who shall certify the facts contained therein are true.

(C) WHEN PERMIT TO BE ISSUED

No permit shall be issued by the Mining Board until the applicant has fully met all requirements and the application is approved by the Department.

(D) PERMIT ISSUED TO OWNER OR MANAGER

All permits shall be issued by the Mining Board in the name or names of the person, firm or corporation for whom the application is made and who furnishes the bond.

(E) PERMIT POSTED AT WELL SITE

When fee permits are required no person shall commence drilling operations until the permit has been issued by the Mining Board and the original, a duplicate or a photostatic copy thereof posted at the well site.

The permit shall remain posted at the well site until the drilling of the well has been completed.

(F) AUTHORITY TO DENY PERMIT

The Mining Board shall have authority to deny a permit to any person, when such person is in violation of the aforementioned Act or any valid and lawful Rule, Regulation or Order adopted or promulgated by the Mining Board.

(G) PERMITS NOT TRANSFERABLE

Permits issued under the Act are not transferable.

(2) APPLICATION FOR PERMIT TO DRILL, DEEPEN OR CONVERT WELL

(A) REQUIREMENTS

Before any person shall spud in or commence the actual drilling of any well for the discovery of oil or gas or commence operations to deepen any well to a different geological formation, or commence any operations on any well which requires the obtaining of a permit under these rules, such person shall file with the Oil and Gas Division of the Department, an application for a permit on such form as the Mining Board shall require.

(B) DRILL OUT OR DEEPEN PLUGGED WELL

In order to drill out or deepen a previously plugged well, the same requirements shall apply as stated in Rule II (2) (A) except that no permit shall be issued to drill out or deepen a previously plugged well which is located less than 330 feet from the two nearest external boundary lines of the drilling unit. Exceptions shall be granted when the plugged well adjoins or is on that part of a leasehold on which secondary recovery operations are now or hereafter established.

(C) CONTENTS OF APPLICATION

The application for a permit shall include the following information, viz:

The name of the leasehold and exact location, by plat, of the well proposed to be drilled, deepened or converted and the approximate location of producing wells previously drilled to the same

formation on said leasehold, together with the name and approximate location of the offset well or wells on adjoining leaseholds, and a statement as to whether or not such proposed well location is within the limits of any incorporated city, town, or village.

Applications for permits shall be certified to by a registered Illinois land surveyor or registered professional engineer who works for the extraction of minerals from the earth.

The application shall include the names and addresses of lessor, lessee, owner, or manager and the person responsible for the conduct of operations, and the name of the contractor. The application shall also indicate the type of drilling tools or equipment to be used and the lowest proposed depth and geological formation to be tested or penetrated.

When the applicant is not the individual owner or manager, if the applicant is a partnership, firm, association, or corporation, and if a corporation, whether its charter authorizes oil operations. If an assumed business name is used, whether it is registered as provided by the Illinois Statutes, giving county of registration.

(D) FEE

The applicant shall remit with the application to either drill, or deepen a well to a different geological formation, or convert a well, a fee of forty dollars (\$40.00) by check, draft, Post Office or Express Money Order payable to the State of Illinois and shall give bond as hereinafter provided.

(E) EXPIRATION OF PERMIT

All permits shall be issued to cover a period of one (1) year from the date of issue and shall expire at that time unless acted upon prior there-

to by the commencement of operations authorized by the permit, and such operations shall be continued with due diligence until the authorized work is completed; provided always that the Mining Board shall have the authority to revoke a permit when the Mining Board finds that any fraud, deceit, or misrepresentation was made to obtain said permit.

Each such permit shall expire before the period of one (1) year from date of issue when and as the permittee has completed the work specified in such original permit.

(F) CHANGE OF LOCATION

If a permittee requests a change of location for the drilling of the well before its completion and such change is upon the same lease and is not over thirteen hundred and twenty (1320) feet from the original location and such proposed change meets with the approval of the Mining Board, the permittee shall return the original permit together with an amended application for such change of location.

(G) DIRECTIONAL DRILLING

In controlled directional drilling when the intent is to direct the bottom of the well bore away from the vertical position, in addition to an application for a well permit the applicant shall furnish the Mining Board with the proposed direction of deviation and proposed horizontal distance between the bottom of the well bore and the surface location. If a permit is issued by the Mining Board, the permittee shall file with the Mining Board, within thirty (30) days after the completion of the well, a certified accurate and complete copy of the directional survey of said well. No person, company, or organization shall direct, or assist in directing, any well bore away

from the vertical position until the Mining Board has issued a permit for such directional drilling.

(3) APPLICATION FOR PERMIT FOR TEST HOLE OR WATER SUPPLY WELL.

As provided by the Act, the Mining Board shall require any person proposing to drill a geological or structural test hole or water supply well in connection with any operation for the exploration or production of oil or gas, to secure a permit therefor. In addition to complying with all provisions enumerated herein, the applicant shall give bond as further required by the Act, and shall also indicate the type of drilling tools to be used and the lowest proposed depth and geological formations to be tested or penetrated. No permit fee is required for these types of test holes.

Mine or quarry drill or blast holes, seismograph test holes or holes drilled to explore strippable coal are exempt from the provisions of the Act.

(4) PERMITS FOR SALT WATER DISPOSAL OR FOR GAS, AIR, WATER, OR OTHER LIQUID INPUT WELLS

In order to prevent waste as defined in the Act, the Mining Board shall require any person desiring to convert any well now drilled, or any person desiring to drill or deepen a well for the purpose of injecting gas, air, water, or other liquid into any underground formation or strata to secure a permit therefor.

(A) REQUIREMENTS FOR PERMIT

In addition to complying with all provisions enumerated and required in Section (1) "GENERAL PROVISIONS" above, the applicant for a permit for a salt water disposal well

or for a gas, air, water, or other liquid input well shall provide a bond as required by the Act.

In the application for a permit for such input well, the applicant shall indicate the location of all producing oil and gas wells, drilling wells or abandoned holes, within one-half ($\frac{1}{2}$) mile radius and all mines or mined out areas or the undeveloped limits of a mine within a like distance of such proposed well, together with the names and addresses of their owners, the name and description of the substance to be injected, and the depths and formation where the proposed injection will be made. The applicant shall also submit the log of such input well if previously drilled, and description and character of casing and cementing operations behind the same, and size of hole drilled.

(B) NOTICE TO OTHER OWNERS OR MANAGERS

Every person desiring to inject any such substance into an underground formation or stratum, shall notify the owners or managers of every oil or gas well, including those drilling or temporarily abandoned, and the owner of every mine, including the mined-out and undeveloped limits of any mine, within a one-half ($\frac{1}{2}$) mile radius, by registered mail on or before the day the application is filed with the Mining Board, and proof of such notice shall accompany said application. The name of the formation shall be included in the notice, and the approximate depth of the top and bottom of the formation to be injected is to be given. On receipt of such application and proof, the Mining Board shall hold the application for ten (10) days pending the filing of objections. In event objection is made within such time or the Mining Board deems a hearing should be had, notice shall be given to each objector and the applicant of the time and place designated by the Mining Board for such hearing.

(C) AUTHORITY TO DENY PERMIT

The Mining Board shall have authority to deny a permit when, in its judgment, there is danger of waste or when it believes the proposed protective work is not sufficient to confine the substance injected to the intended strata.

(D) AUTHORITY TO SUSPEND OPERATIONS

At any time it seems apparent that the injected substance is not being confined to the intended stratum and is migrating to other stratum or to the surface, the Mining Board shall have authority to suspend operations and after notice and hearing to prohibit the further use of any such well for said purposes.

(E) FEE

The applicant shall remit with the application to convert, drill or deepen a well for the purpose of injecting any gas, air, water, or other liquids, or any combination thereof, into any underground formation or strata a fee of forty dollars (\$40.00) by check, draft, Post Office or Express Money Order payable to the State of Illinois.

(5) PERMIT REQUIREMENTS IN MINE AREAS

(A) FOR WELL PENETRATING MINE

When the location of a well to be drilled for oil or gas, or any purpose in connection therewith, will penetrate an active mine or through the mined out and inaccessible or sealed off area of an active mine, or shall penetrate the same in a temporarily abandoned mine, or the undeveloped limits of any such mine property, a drilling permit shall not be issued by the Mining Board until an agreement shall be reached between the owner of the proposed well and the mine owner,

or in the event of failure to reach such an agreement a permit will not be issued until a hearing is held as hereinafter provided.

(1) AGREEMENT WITH MINE OWNER

A copy of such agreement, jointly signed by the applicant for a permit and the mine owner agreeing to the drilling of the well and the proposed location, shall be filed with the application and accompanied by a map or sketch showing the well location, its relation to shafts and mine buildings, and to each coal seam or seams and mine workings underlying applicant's lease, or a statement from the mine owner that the location is over the undeveloped limits of the mine.

(2) REQUIREMENTS IN ABSENCE OF AGREEMENT

In the absence of such an agreement or statement, the applicant shall file with application for permit a map or sketch showing the well location, its relation to shafts and mine buildings, if any, as well as its relation to the mine workings underlying applicant's lease, with a sworn statement that a true and exact copy of application and accompanying exhibits was mailed postage prepaid to the coal company or its authorized agent in Illinois, by United States registered mail.

If within ten (10) days from the receipt of the application for permit by the Mining Board no written objections are filed, the Mining Board shall issue or deny the permit.

Upon the filing of objections to the issuance of the permit, the Mining Board shall promptly set the matter for hearing and decision.

(B) REQUIREMENTS IN INACTIVE MINING AREAS

In inactive mining areas where the existence of workable coal is known to be present and the

ownership of such workable coal has been recorded in the county records, the applicant for a permit to drill a well for oil and gas or to drill any well in connection with the production of oil and gas shall notify the owner of said workable coal by registered mail with return receipt requested. The notice shall show the exact location of the proposed test and the approximate depth of the formation to be tested. The Mining Board shall be furnished with a copy of the notice attached to the application for permit, with the return receipt from the owner of the workable coal or, in lieu thereof, a sworn statement that the applicant has the return receipt in his possession, giving the names and addresses of the owners of the coal rights and date of delivery of the notice.

(1) NOTICE TO MINE OWNER

No permit shall be issued to the applicant until ten (10) days have elapsed following the receipt of the registered notice by the owner of the workable coal.

(2) MAPS AVAILABLE AT WELL SITE

During the drilling of a well, for which a permit has been issued, the permittee shall keep at the well site for the use of the Mining Board and its representatives an exact copy of the maps and sketches which accompanied his application for such permit.

RULE III

BONDS

(1) WHEN BONDS REQUIRED—AMOUNT

As provided by the aforementioned Act, the Mining Board shall require every person previous to the commencement of drilling for oil, gas or any other purpose in connection therewith, and every person who has created or acquired any well drilled for these purposes which has not been plugged and abandoned in accordance with the Laws, Rules, Regulations or Orders of the Mining Board, to execute and file with the Mining Board a bond of one thousand dollars (\$1000) for each of such wells, or in lieu thereof a blanket bond in the sum of twenty-five hundred dollars (\$2500) for all wells to provide for the compliance with the provisions of the aforementioned Act and all amendments thereof and to the Rules, Regulations and Orders of the Mining Board issued under the provisions of said Act and all amendments thereto.

(2) KIND OF BOND—EXECUTION

(A) SURETY OR CASH BOND

When surety bonds are given they shall be executed by a responsible surety company authorized to do business in the State of Illinois.

Cash bonds on Departmental form are acceptable when accompanied by certified check payable to the State of Illinois.

(B) PERSONAL BOND

If any other type of bond is given, the principal and the surety shall be bona fide residents of Illinois. The Mining Board is authorized to scrutinize and investigate each bond before it shall be approved or rejected, and the Mining

Board shall have thirty (30) days to pass on the sufficiency of any such bond.

(C) EXECUTION OF BOND

The Mining Board shall not approve any bond until it is personally signed and acknowledged by both the principal and surety, or for them by an attorney in fact with a certified copy of the power of attorney attached thereto.

(3) BOND OF MANAGER

The person, firm or corporation in whose name the permit is issued shall be named as principal on the bond and shall execute same for such well, together with a written statement to the Mining Board that he is the manager and will be solely responsible for any and all violations of the aforementioned Act or any Rule, Regulation or Order of the Mining Board adopted or promulgated pursuant thereto, that may occur in the drilling, operation or plugging of the well. Where the holder of a fractional working interest in the leasehold is designated as manager, he may furnish a bond.

(4) BOND FORM—APPROVAL

All bonds shall be given on a form to be prescribed by the Mining Board and shall be subject to its approval. The Mining Board may at any time request a new bond or additional sureties when it has reason to believe the present bond is inadequate.

(5) SURETY MAY CANCEL BOND

On thirty (30) days' written notice given to the Mining Board, any surety may cancel a bond or remove himself as surety, and in event of such, the surety shall not be responsible under the terms of the bond beyond the thirty-(30) day period after notice is given to the Mining Board, but shall continue to be liable for all the liabilities accruing under the bond during the period of the time he, they or it was the surety thereon.

(A) REQUIREMENTS BEFORE BOND MAY BE CANCELED

The provisions of the laws of the State of Illinois require the plugging of the well, or wells, the filling of all excavations, the removal of all concrete bases, discarded machinery and material, and restoring the surface as nearly as possible to its former condition before such well, or wells, was drilled; and such bond shall be renewed and be continued in effect until the aforesaid conditions have been fully complied with.

(6) MINING BOARD MAY CANCEL BOND

A bond given in accordance with the provisions of this rule may, upon not less than thirty (30) days' written notice to the Mining Board, be cancelled by the Mining Board, upon satisfactory proof's being furnished to the Mining Board by the principal or surety that all conditions and provisions of said bond have been fully complied with. In the event of a default by the principal in any of the conditions of the bond, the surety or sureties on such bond shall be responsible for the immediate and full compliance with the conditions of said bond.

(7) CASING PULLER'S BOND

Any person engaged in pulling casing from abandoned oil or gas wells and wells used in connection therewith, who purchases such wells for the purpose of salvaging material from the same, shall file a bond with the Mining Board in the sum of one thousand dollars (\$1000) for an individual well or in lieu thereof a blanket bond in the sum of twenty-five hundred dollars (\$2500) to guarantee the ultimate plugging of these wells conformable with the Rules, Regulations and Orders of the Mining Board, including the restoration of the ground conditions, such as filling the pits, leveling the well site, and cutting off surface pipe below plow depth, if the ground conditions have not previously been rectified by the prior owner of such well or wells.

RULE IV

SPACING OF WELLS

(1) GENERAL SPACING RULES.

The following rules govern the spacing and location of wells and the integration of separate interests within a drilling unit. The Mining Board shall not issue a permit for the drilling or deepening of a well for the production of oil or gas within the State of Illinois without the compliance with such rules.

(A) WELLS DRILLED OR DEEPENED.

(1) In the absence of a specific order of the Mining Board following notice and hearing as prescribed in Rule IV (1) (A) (6) which establishes drilling units and the well locations in pools (the depth to be determined by the original or discovery well in the pool), and subject to the exceptions under Rule IV (1) (E) hereof, the Mining Board hereby establishes individual well drilling units consisting of:

- (a) ten (10) acres of surface area lying within the quarter-quarter-quarter section of land (as established by the official United States Public Land Survey made pursuant to the provisions of an act of Congress), for wells drilled or deepened for the production of oil or gas from a sandstone formation in a pool, the top of which lies less than four thousand (4,000) feet beneath the surface; the location of the well shall be not less than three hundred thirty (330) feet from the nearest external boundary lines of the drilling unit; or

- (b) twenty (20) acres of surface area lying within the east-west or north-south one-half of a quarter-quarter section of land (as established by the official United States Public Land Survey made pursuant to the provisions of an act of Congress), for wells drilled or deepened for the production of oil or gas from a limestone formation in a pool, the top of which lies less than four thousand (4,000) feet beneath the surface; the location of the well shall be not less than three hundred thirty (330) feet from the nearest external boundary lines of the drilling unit; or
- (c) forty (40) acres of surface area lying within a quarter-quarter section of land (as established by the official United States Public Land Survey made pursuant to the provisions of an act of Congress), for wells drilled or deepened for the production of oil or gas from a pool, the top of which lies between four thousand (4,000) and six thousand (6,000) feet below the surface; the location of the well shall be not less than three hundred thirty (330) feet from the nearest external boundary lines of the drilling unit nor less than nine hundred (900) feet from the nearest location of a producing well or well being drilled or for which a permit has previously been issued for the drilling of a well to the same individual pool; or
- (d) one hundred sixty (160) acres of surface area lying within a quarter section of land (as established by the official United States Public Land Survey made pursuant to the provisions of an act of Congress), for wells drilled or deepened for the production of oil or gas from a pool,

the top of which lies below six thousand (6,000) feet; the location of the well shall be in the approximate center of one of the quarter-quarter-quarter sections which corners on the center of the one hundred sixty (160) acre unit;

and hereby expressly authorizes by this general order the issuance of permits and the commencement of wells in accordance with the spacing provided in this Section (1) (A) (1) of Rule IV, notwithstanding the fact that notice may have been given of a hearing upon any application to establish drilling and spacing units.

(2) The Mining Board, upon application of any interested person and after notice directed to all interested persons as prescribed in Section (1) (A) (6) of Rule IV and hearing thereon, shall establish by specific order a drilling unit or units for each pool. All drilling units established for each pool or portion thereof shall be of uniform shape and size.

(3) All drilling units in pools, in response to initial application for establishing the size of drilling units, shall be established to include the greatest area (authorized by the Act) which may be efficiently drained by one well. When and if information from additional wells demonstrates that different drilling units are needed, then, upon application by any interested person and after notice directed to all interested persons as prescribed in Section (1) (A) (6) of Rule IV and hearing thereon, the existing order establishing the size and shape of drilling units shall be modified.

(4) Each order establishing drilling units in any pool shall prohibit the drilling of more than one well on any drilling unit for the production of oil or gas from the particular pool with respect to which the drilling unit is established and shall specify the location for the drilling

of such well thereon. Such location shall be fixed whenever possible to permit reduction of the size of such drilling units or drilling of additional wells on such drilling units. Each such order shall also specify the geographic limits of the pool or pools subject to such order.

(5) For good cause shown upon application and after notice as provided in Rule IV (1) (A) (6) hereof and after hearing, the Mining Board shall grant exceptions to the size and shape of a drilling unit or the location of the well in a drilling unit in accordance with the provisions of subsection (E) of this section (1) of this Rule IV. Whenever it appears that the geographic limits of a pool as specified in an order are incorrect, the Mining Board shall, upon application of an interested person and after notice and hearing as required in Rule IV (1) (A) (6), amend the order to specify the correct geographical limits of the pool.

(6) Each application filed under Rule IV (1) (A) (2) above shall be filed in the Oil and Gas Division of the Department of Mines and Minerals. Each such application shall, insofar as possible, contain all information needed by the Mining Board to take the action requested. Notice of all hearings held under said Rule IV (1) (A) (2) above shall be given as provided in Rule I (13) (C) hereof. Every application filed under this Rule IV (1) (A) (2) shall be heard and an order entered by the Mining Board within thirty (30) days after the filing thereof as required herein. All interested persons shall be entitled to be heard at every hearing held under this Rule IV (1) (A) (2).

(B) SEPARATELY OWNED TRACTS WITH- IN DRILLING UNIT.

All orders requiring integration of interests as provided for in the Act shall be made upon application, after notice as provided in Rule I

(13) (C), and after hearing. The applicant shall furnish all pertinent data and information requested or required by the Mining Board.

(C) TWIN WELLS.

Twin wells may be drilled on a drilling unit to different formations, allocating the acreage in the drilling unit for each producing formation as above provided.

(D) WELLS WITHIN CORPORATE LIMITS.

A certified copy of the official consent of the municipal authorities to drill or deepen a well located within the limits of any city, incorporated village, or town must accompany the application for permit. A certified copy of consent of the municipal authorities is also required for an amended location.

(E) EXCEPTIONS.

(1) Whenever the topographical conditions of a drilling unit render it impractical, without unreasonable expense, to drill a well at a location in conformity with the spacing rules, the Mining Board may alter the location after investigation and verification of the topographical conditions.

(2) In those areas where the United States Government has not made an official survey, in areas covered by the old French Surveys and Grants, in meandered lands, in government lots, and in subdivisions thereof where the acreage in quarter-quarter-quarter sections and quarter-quarter sections does not conform to the spacing and drilling requirements of the law and the rules and regulations, the Mining Board shall have the authority to establish drilling units and to grant exceptions for wells when such drilling units will not cause a greater well density than would be encountered in regular official surveys.

(3) In case of irregular sections containing more or less than six hundred forty (640) acres, the Mining Board shall have the authority to allow exceptions or create units in order to absorb the entire acreage in such sections into drilling units.

(4) Gas, air, water, or other liquid input wells, salt water disposal wells, and structure tests are exempt from any spacing requirements.

(5) In order that a proposed well may be located over an existing or proposed pillar of a mine property, the foregoing spacing requirements may be waived by the Mining Board when the well to be drilled or deepened for oil or gas will penetrate an active mine, the mined-out or inaccessible portion of an active mine, a temporarily abandoned mine, or the undeveloped limits of any such mine property.

(6) Each person desiring the Mining Board to grant an exception for a reason other than those specified in Paragraphs (1), (2), (3), (4), and (5) of this Section (E) shall submit with his application for permit a statement setting forth the desired exception and the reasons or necessity therefor, and giving in detail the action the applicant has taken in such matter. The applicant shall notify, by registered mail or certified mail on or before the day the application is filed with the Mining Board, the owner or manager of every oil and gas well within one-half ($\frac{1}{2}$) mile radius of the proposed well location, and proof of such notice shall accompany said application. Upon receipt, the Mining Board shall hold such application and proof of notice ten (10) days for possible objections. In the event objection is made within such time or the Mining Board deems a hearing should be had, the Mining Board shall give notice to each owner or manager listed in the proof of notice, and to the applicant, of the date and

place designated by the Mining Board for such hearing. After such hearing, the Mining Board shall either issue or deny the permit.

(2) SECONDARY RECOVERY

Spacing regulations for oil wells will not be waived in areas where the applicant declares an intention to undertake a proposed secondary recovery operation, until one or more input wells are first drilled or other wells are actually converted to input wells after permits have been issued for such conversion.

(A) PATTERN FLOOD

(1) When an applicant applies for a permit to drill or deepen an oil well at a location which complies with the regular spacing requirements set out in Rule IV (1) (A), a permit shall be issued by the Mining Board.

(2) When an applicant applies for a permit to drill or deepen an oil well using the same spacing pattern as that used in an adjacent pattern flood, a permit shall be issued by the Mining Board.

(3) When an applicant applies for a permit to drill or deepen an oil well at a lesser distance to the boundary lines of his leasehold than are the existing oil wells in an adjacent pattern flood, the applicant shall notify, by registered mail or certified mail, the owners or managers of oil wells in the established secondary recovery projects within one-half mile of the proposed well, stating his intentions as described in his application for a permit. A copy of the notification will be held by the Mining Board ten days after its receipt with the application for a permit. If no written objections are received by the Mining Board from the operators so notified, the permit shall be issued. If written objections are received by the Mining Board within the ten-day period, the Mining Board shall call a hearing to determine

the merits of issuing such a permit. After such hearing the Mining Board shall either issue or deny the permit.

(B) OTHER FLOODS

(1) When the spacing of oil wells and/or input wells is not based on a geometric arrangement, as defined in the definition of a pattern flood, the following shall apply:

- (a) When the location of the proposed oil well requested complies with the regular spacing requirements set out in Rule IV (1) (A), a permit shall be issued by the Mining Board.
- (b) When the location of the proposed oil well requested does not comply with the regular spacing requirements set out in Rule IV (1) (A), the applicant shall notify, by registered mail, the owners or managers of oil wells within one-half mile of the proposed well, stating his intentions as described in the application for a permit. A copy of the notification will be held by the Mining Board ten days after its receipt with the application for a permit. If written objections are received by the Mining Board within the ten-day period, the Mining Board shall call a hearing to determine the merits of issuing such a permit. If no written objections are received by the Mining Board from the operators so notified, the Mining Board shall either issue a permit or, at its discretion, call a hearing to determine the merits of issuing such a permit. If a hearing is held, the Mining Board shall subsequently either issue or deny the permit.

(C) RECORD TO BE KEPT

If any owner or manager of a leasehold adjoining a secondary recovery project files with

the Mining Board a verified complaint stating that he has reasonable grounds to believe secondary recovery operations are being conducted on the offset leasehold in such manner as to violate or impair his right to recover the oil or gas underlying his leasehold premises, the Mining Board may require the owner or manager of such secondary recovery project to submit to the Mining Board his or its records and data showing the average production from said leasehold, the formation or formations subjected to such secondary recovery operations, and the daily injection volume and pressure of each input well thereon, during the period of two full calendar months preceding the filing of such complaint. If such records have not been kept by such owner or manager, the Mining Board may require that the same be kept for a specified period of time, not to exceed two full calendar months, and furnished to the Mining Board. The information or data submitted by the owner or manager of such secondary recovery project shall be confidential except that the Mining Board may exhibit the same to complainant. This rule shall not be construed to prevent the Mining Board from taking any other action authorized by the Act which it may deem necessary in order to prevent waste.

(3) NONCONFORMING WELL TO BE PLUGGED

Any well drilled in violation of the permit issued therefor shall not be allowed to produce oil or gas, but after notice and hearing by the Mining Board the said well shall be plugged and abandoned unless an exception be granted by the Mining Board.

RULE V

FILING OF LOGS AND WELL INFORMATION

(1) RETURN OF COMPLETION REPORT

A completion report will be attached to each drilling permit issued by the Mining Board. Upon completion of the well for which the permit is issued, the owner, manager, or operator of said well shall furnish the information requested thereon, and shall mail the same promptly, addressed to the Oil and Gas Division of the Department of Mines and Minerals, Springfield, Illinois.

(2) WELL LOG TO BE FILED

The Mining Board requires the owner or manager of any well drilled under the provisions of the Act, to file with the State Geological Survey, Urbana, Illinois, within thirty (30) days of completion of the well, a log of strata encountered and all geophysical logs including electric logs except velocity, sonic and dipmeter surveys made in the well. The Mining Board also requires that a drilling time log shall be filed with the Survey when so specified on the permit.

(3) CONTENTS OF WELL LOG

Such logs shall show :

(A) The name, number, location and elevation of the well in accordance with the description required by the Mining Board in the application for the permit to drill such well;

(B) The name, character, depth and the thickness of the formations passed through or encountered in the drilling of such well and the depth and thickness of each oil-, gas-, or water-bearing formation or strata encountered;

(C) The depth and thickness of coal beds and deposits of mineral materials of economic value;

(D) The results on completion, whether the well was dry or productive of oil or gas, and if productive, the initial production;

(E) If fresh water has been encountered, the approximate capacity;

(F) The elevation above mean sea level of the point from which the depth measurements are made, stating its height above ground level at the well.

The correctness of the log shall be subscribed and sworn to before a notary public, that the statements contained therein are true.

When requested in writing by the owner, any or all information contained in any such log hereby required will be kept confidential until released in writing by the owner thereof or his legal representatives after its lodgment in the office of the State Geological Survey; however, no such information shall be kept confidential for more than one (1) year from the date of issue of the drilling permit for the particular well.

(4) COLLECTION OF DRILL CUTTINGS

As provided by the Act, the Mining Board shall notify the person or persons to whom any permit is issued, at the time of the issuance thereof, either to collect or not to collect for the State Geological Survey, drill cuttings representing each run drilled in cable tool wells and each ten (10) feet of distance drilled and drilling time in rotary wells. When so notified by the Mining Board to collect such cuttings hereby required, the permittee shall obtain containers for such cuttings, and information as to the approved method of collecting drill cuttings from the State Geological Survey, Urbana, Illinois.

RULE VI

IDENTIFICATION OF LEASES AND TRANSFER OF MANAGEMENT

(1) LEASE AND WELL IDENTIFICATION

To identify all producing leases the owner or manager thereof shall cause a sign to be placed where the principal lease road enters the lease and such sign shall show the name of the lease and the owner or manager thereof and the section, township and range.

A legible numeral shall be attached or painted on pumping unit or jack of each well or a legible sign placed near the well to identify the well number.

(2) TRANSFER OF MANAGEMENT

The Mining Board shall be notified within ten (10) days after the transfer of each change of management of a producing oil and gas leasehold estate or fee production.

(3) RESPONSIBLE OWNERSHIP REPRESENTATIVE

The owner or manager of all present and future producing leases shall file with the Mining Board a roster in duplicate, which lists the names, addresses, and telephone numbers of at least two (2) persons having the responsibility for the operation or supervision of each lease. This roster must be kept current to enable the Mining Board to contact a responsible ownership representative in the event of emergency conditions arising from the lease operation. Such roster for present producing leases shall be filed within ninety (90) days after the adoption of this rule. Any owner or manager commencing operations on a new lease hereafter shall file said roster in connection thereto within thirty (30) days after completion of the well.

RULE VII

WASTE PROHIBITED

(1) AVOIDABLE WASTE OF GAS

In drilling any well, if a gas sand or stratum is penetrated, the hole must not be left open so that an avoidable escape of gas, which in the opinion of the Mining Board constitutes waste, will occur during further drilling in or through such stratum or during temporary abandonment of the well. The Mining Board may require mud-laden fluid to be applied, or the gas stratum cased off, or any suitable method adopted which will arrest such escape of gas.

Gas produced in connection with the production of oil shall be burned in flares where there is no market at the well for escaping gas. The operators of casinghead gas plants operated for the extraction of liquid hydrocarbons from the gas shall burn the residue gas in flares when no market exists at such plant for the residue gas or when the gas is not returned to an oil pool or field for pressure maintenance or repressuring of the oil pool or field.

(2) ESCAPE OF UNBURNED GAS PROHIBITED

The escape of unburned gas from any well into the air or atmosphere is hereby prohibited. All such surplus gas, not otherwise utilized, shall be burned at a safe distance from any well, storage tank or building.

(3) BURN-OFF PITS

To prevent fire hazards and waste from waste oil, the same shall be collected in burn-off pits which shall be located a safe distance from oil storage tanks, buildings, or other structures, and shall be

burned as often as necessary to prevent overflowing. Such pits shall be constructed to prevent the escape of oil therefrom, and shall have a continuous wall completely surrounding the pit of sufficient height above the surface to prevent surface water from running into the pit. Earthen pits will be permitted at locations where the soil is heavy and tight, but shall be prohibited in locations where the soil is porous and closely underlaid by either gravel or sand strata.

(4) LEASE TANK RESERVOIRS

When it is deemed necessary by the Mining Board to protect life, health or property, the Mining Board may require any lease or oil storage tanks to be surrounded by an earthen dike which shall have a capacity of one and one-half ($1\frac{1}{2}$) times the capacity of the tank or tanks it surrounds, which dike shall be continually maintained; and the reservoir within shall be kept free from vegetation, water or oil.

(5) FIRE HAZARDS AT WELL LOCATIONS

All well and tank locations shall be kept free of dead grass, brush, weeds and other inflammable material and so maintained at all times.

RULE VIII

PROTECTION OF WORKABLE COAL BEDS

To prevent waste, the Mining Board shall protect workable coal beds in the drilling, casing, and plugging of wells drilled for oil or gas, or for any other purpose in connection therewith.

(1) WORKABLE COAL BEDS DEFINED

All coal beds or seams thirty (30) inches or more in thickness less than one thousand (1000) feet below the surface shall be determined as workable. When any well drilled for oil or gas, or to be used in connection therewith, penetrates such coal seams or ceases to be used for the purpose drilled, such coal seams shall be protected as herein provided.

(2) MINING BOARD MAY DETERMINE PRESENCE OF COAL SEAMS

The Mining Board shall have authority to determine when workable coal beds or seams are present, by geological data obtained from the State Geological Survey, or other relevant information which would indicate the presence of workable coal beds or seams underlying the well site.

When the presence of any coal strata or seam is disputed by the owner or manager of a well, and such condition is contrary to the geological information possessed by the Mining Board, such contention of the owner or manager shall be supported by an affidavit on a form prescribed and furnished by the Mining Board, which affidavit shall be executed by a geologist or other person qualified and competent to determine the presence of such disputed coal strata or seam. When such affidavit has been filed with the Mining Board, it shall have au-

thority to determine the issue, after obtaining all further geological information possible, or if the Mining Board deems expedient, it may on its own motion, call a hearing to be held as herein provided to determine such facts.

(3) WELL LOCATIONS PROHIBITED

No well for oil or gas shall be drilled within two hundred fifty (250) feet from any opening of an active coal mine used as a means of ingress or egress for the persons employed in such mine, or which is used as an air shaft, except by mutual agreement between the person owning or operating the mine and the oil or gas operator.

(4) NOTICE TO MINING BOARD

At least twenty-four (24) hours prior to reaching the depth of mine workings or the undeveloped limits of the mine, the person in charge of drilling operations shall notify the Mining Board or Mining Board Representative and the mine representative of the time when such well shall reach such point, in order that the Mining Board may have a Mining Board Representative present on the well site at such time.

(5) CASING AND PROTECTIVE WORK

Whenever the Rules and Regulations require a mine string to be set in a mine area, the casing used inside the mine string shall be new.

Any protective work required in a mine area shall be under the supervision of the Mining Board.

(6) OPERATIONAL REQUIREMENTS OVER ACTIVE MINE

(A) MINING BOARD TO DETERMINE SAFETY FACTORS

No well shall be drilled into any coal mine or mine workings in any active mine until the Mining Board Representative is present and determines that the mine or mine workings are safe.

Until the Mining Board Representative is satisfied that adequate protection has been provided so that no hazard exists, drilling operations shall be suspended. After any protective or corrective work, required by the Mining Board Representative, has been satisfactorily completed by the well owner, manager or his representative, drilling operations may be ordered resumed; but if in the opinion of the Mining Board Representative it is impossible to adequately protect the mine or mine workings, he shall order the permit revoked and the well plugged in the manner hereinafter provided.

(B) DRILLING METHODS AND PROCEDURE

(1) GENERAL

All wells drilled through an active coal mine or through an abandoned portion of an active mine shall be located if possible in order to pass through an adequate pillar.

(2) MINE PROTECTIVE STRING

Whether drilled through a pillar or not, a mine string of casing of good quality shall be set to protect the mine. The mine string shall be treated with a heavy impervious coating of asphalt, plastic, or other acid-resisting material from fifty (50) feet above the mine roof to a point fifty (50) feet below the mine floor or base of coal seam.

The outside diameter of the mine string shall be at least four (4) inches smaller than the diameter of the well bore and equipped with centralizers or similar mechanical device above and below the coal seam. The mine string shall be set at an approximate depth of fifty (50) feet below the base of the coal seam and cemented from the casing seat to the surface.

If the mine string misses a pillar and is set through an open room of an active mine or the abandoned portion of an active mine, an umbrella, basket, or packer must be used on the mine string to set above the mine roof and the mine string shall be cemented from the casing seat to the mine floor and also cemented from the umbrella, basket, or packer set above the mine roof to the surface.

(3) CEMENTING OIL STRING

The outside diameter of the oil string shall be at least three (3) inches smaller than the inside diameter of the mine string when set through a pillar, and the outside diameter of the oil string shall be at least four (4) inches smaller than the mine string when set through an open room and equipped with centralizers, or similar mechanical devices, immediately above and below the coal seam. The centralizers shall be so spaced as to be within the mine string of casing.

The oil string shall be surrounded with cement from the casing shoe to the surface, or the oil string may be cemented using multiple-stage cementing tools, as hereinafter provided.

When the multiple-stage cementing method is used, at least one hundred (100) sacks of cement shall be placed around the casing shoe and the multiple-stage cementing tool placed one hundred (100) feet below the floor of the mine and cemented from that point to the surface.

In areas where thief zones or high permeability horizons occur below the level of the mine, the Mining Board may require multiple-stage cementing tools to be used in the cementing of the oil string in order to assure protection for the mine.

(4) TEMPERATURE SURVEY REQUIRED

When drilling through mined out areas which are not accessible, and, if, in the opinion of the Mining Board representative, it is necessary, a self-registering thermometer shall be lowered to the mined out level, and if the recorded temperature shows the possibility of fire at or near the position of the hole, the drilling permit shall be revoked and the hole plugged, as herein required.

(C) SHOOTING WELLS OVER ACTIVE MINES OR WORKED OUT PORTIONS OF ACTIVE MINES

(1) SHOT LESS THAN FIFTY (50) QUARTS

When any well is located over or penetrates an active mine or worked out portions of an active mine, before shooting the oil-bearing formation, the well owner or manager shall proceed as follows:

- (a) Notify the Mining Board or Mining Board Representative at least twenty-four (24) hours in advance of the time the shot is to be fired.
- (b) Notify the mining company at least twenty-four (24) hours in advance of the time the shot is to be fired.
- (c) Tamp the shot with a minimum of sixty (60) feet of tamp, at least the top thirty (30) feet of which shall be of impervious material, being sure that the top of the tamp extends to a place in the hole opposite solid rock formation. Fill the hole to the top with fluid of consistent viscosity and specific gravity.

(2) SHOT EXCEEDING FIFTY (50) QUARTS

When the charge exceeds fifty (50) quarts of nitroglycerin:

- (a) Apply to the Mining Board for permission to shoot, indicating the size of charge to be used.
- (b) In the absence of written authority from the coal company for the specific shot, the Mining Board shall:
 - (1) Immediately upon receipt of application notify the coal company indicating location of well and size of charge to be used.
 - (2) If no objection is filed by the coal company within twenty-four (24) hours, the Mining Board shall give permission to fire the shot.
 - (3) If coal company objects, the Mining Board shall, within twenty-four (24) hours of receipt of said objection set matter for hearing and determination in county where well is located.
- (c) Extend the tamp with impervious material ten (10) feet beyond the minimum tamp of sixty (60) feet for each additional ten (10) quarts of charge used, being sure that the top of the tamp extends to a place in the hole opposite solid rock formation. Fill the hole to the top with fluid of consistent viscosity and specific gravity.

RULE IX

AVOIDANCE OF FRESH WATER POLLUTION AND DISPOSAL OF SALT WATER OR OTHER LIQUIDS TO PREVENT WASTE AS DEFINED IN THE ACT

To assure fresh water supplies and to prevent waste, no person shall dispose of salt water or other waste liquids except in the following manner. Any other method of disposal is hereby prohibited.

(1) DISPOSAL IN UNDERGROUND STRATUM

Salt water or other waste liquids may be disposed of into an underground formation or strata after a permit to do so has been procured from the Mining Board as hereinbefore provided. The Mining Board shall have authority to designate and approve the stratum into which such liquids shall be disposed of, also the protective work necessary to confine such liquids to the intended stratum. All such work shall be executed under the supervision of a Mining Board Representative and shall conform to the requirements imposed in granting the permit therefor.

(2) DISPOSAL IN EARTHEN PITS

Salt water and other waste liquids may be impounded and collected or disposed of by evaporation in excavated earthen pits where the salt water or other waste liquids will not contaminate ground water or pollute surface water in accordance with the following rules.

(A) NEW PITS

Before any earthen pit may be constructed for such purposes the operator shall file with

the Mining Board an application on a form approved by the Board. The form may request such geological and engineering data as is reasonably necessary to enable the Oil and Gas Division to determine whether or not the pit will be sufficient to prevent the contamination of ground water or pollution of surface water.

Within ten days after receipt of such application, the Mining Board shall:

1. Return the application with an explanation as to why permit has been refused, or
2. Issue a permit for the construction and use of the pit.

Earthen pits may be constructed for such purposes only when the pit is underlain by tight soil such as clay or hardpan. Where the soil under the pit is porous and closely underlain by a gravel or sand stratum, impounding of salt water or the waste liquids in such earthen pits is hereby prohibited except where pit is constructed with such material which will prevent seepage from the pit.

(B) EXISTING PITS

Within six (6) months from the effective date of this rule, operators of all existing salt water pits shall submit application for a permit for said pits on such form as the Mining Board may provide. The application will be approved subject to physical inspection if the pit adequately prevents the escape of waste liquids.

When such liquids are impounded in earthen pits, the pit shall be constructed and maintained so as to prevent escape therefrom. The waste liquids in earthen pits shall at no time be permitted to rise above the lowest point of the ground surface level. All pits shall have continuous walls surrounding them so that no surface drainage from adjacent areas can enter the pits. No pit shall be used in an area which is subject to flooding by streams, rivers, lakes, or

drainage ditches, unless so constructed that the pit would not normally be affected by flooding.

(3) PIPES TO BE KEPT IN REPAIR

A pipe conveying such liquids to any salt water disposal well or pit shall be kept in good repair and free from leaks, and no outlet valve will be permitted in such pipe between the place of origin and discharge.

(4) SLUSH AND MUD PITS

When drilling with cable tools, the operator shall provide at least one (1) properly prepared slush pit, into which he must deposit mud and cuttings. When drilling with rotary tools, the operator shall provide the necessary mud circulation and reserve pits.

(5) ROTARY DRILLING PROCEDURE

To protect fresh water stratum the following rules on "Drilling Procedure" shall apply to wells drilled with rotary tools:

It is incumbent on the operator to ascertain and set suitable and safe surface casing in all wells drilled from the effective date of these rules. In all wells drilled in areas where pressure and formation are unknown, sufficient surface casing shall be run to reach a depth below all utilized fresh water levels and shall be of sufficient size to permit the use of an intermediate string of casing. Surface casing shall be set in or through an impervious formation, and shall be cemented by the pump and plug or displacement method with sufficient cement to circulate to the top of the hole.

In wells drilled in areas where the subsurface conditions have been established by drilling experience, surface casing size at the operator's option shall be set and cemented to the surface by the pump and

plug or displacement method at a depth to protect all utilized fresh water.

Cement shall be allowed to set under pressure before drilling the plug in accordance with standards prevailing in the area.

In lieu of surface casing requirements as set out herein and at the option of the operator the flow string may be cemented by the pump and plug or displacement method with sufficient cement to protect all utilized fresh water stratum.

In the event that it is later determined that utilized fresh water strata exist below the surface casing in a producing oil, gas or service well, then the operator, contractor, or owner shall under the supervision of a representative designated by the Mining Board, cause the flow string to be perforated and squeezed with cement to protect such fresh water strata, or take such other measures for the protection of such fresh water strata as are ordered by the Mining Board after notice and hearing.

(6) CABLE TOOL DRILLING RULES

Before commencing to drill, proper and adequate slush pits shall be constructed for the reception of mud of sufficient quality and quantity so that such mud may be available if and when the hole is plugged.

Where cable tools are used, sufficient surface casing shall be set to protect all utilized fresh water levels, and subsurface casing shall be cemented by the pump and plug or displacement method with sufficient cement, provided further that any hole drilled by cable tools where fresh water stratum is encountered fifty (50) feet or less from the surface, methods other than noted above may be used in setting surface casing, provided such method protects all utilized fresh water stratum.

(7) MINING BOARD SUPERVISION

When salt water or other waste liquid is not properly impounded or is being improperly disposed of, or pollution of utilized fresh water stratum is occurring from improper drilling procedures, the Mining Board shall order such improper condition corrected when it is determined that the disposal method used pollutes utilized fresh water supplies, creates a hazard, or is injurious to life, health, or property.

(8) YEARLY INSPECTION OF PITS— REVOCATION OF PERMITS—OR- DERS FOR CORRECTIVE ACTION AND OTHER DISPOSAL

All pits for which permits have been issued shall be subject to a yearly inspection by the Mining Board. After ten (10) days written notice to the operator, and after a hearing, the Mining Board may condemn any pit which does not properly impound salt water and other waste liquids, and (1) order revocation of the pit permit, (2) order the operators to take measures to correct the defective conditions of the pit, or (3) order the operator to dispose of such liquids and waste by some other means. Such orders of the Mining Board requiring the operator to take corrective measures or to dispose of liquids and waste by other means shall specify the period of time (no less than 10 days nor more than 90 days) the operator shall have to take corrective measures or to make alternate disposal. Such period of time shall be extended by the Mining Board when circumstances beyond the control of the operator effectively prevent the operator's compliance. The pit permit shall automatically be revoked unless the operator has complied with such orders by the expiration of said time period.

RULE X

VACUUM

The use of vacuum pumps or other devices for creating a vacuum on any oil- or gas-producing stratum is hereby prohibited until the owner or manager has complied with the following requirements:

(1) APPLICATION FOR USE OF VACUUM

On or before the date of filing an application by letter for the use of vacuum on any leasehold, the applicant shall notify, by registered mail, all other persons owning or managing producing oil or gas wells located within one-half ($\frac{1}{2}$) mile radius of the well or wells where the use of vacuum is proposed, and shall set out in the notice the proposed strata or formation and exact location of the well or wells to be affected by the application or use of such vacuum. The applicant shall submit proof of such notice with the application, giving the names and addresses of all well owners or managers within such one-half ($\frac{1}{2}$) mile radius.

(2) NOTICE AND HEARING ON APPLICATION

On receipt of such application and proof of notice, the Mining Board shall hold the same for ten (10) days pending the filing of objections, and if none is received at the end of such period, the application may be approved by the Mining Board.

In event objection is made by the owner or manager of any well or wells producing from the same formation, which are located within one-half ($\frac{1}{2}$) mile radius of the proposed vacuum installation, and the Mining Board deems a hearing shall be had,

notice shall be given to each objector and the applicant, of the time and place designated by the Mining Board for such hearing.

(3) MINING BOARD AUTHORITY

The Mining Board shall have authority after notice and hearing to prohibit vacuum or to deny or revoke permission for the use of vacuum when, in its judgment, there is danger of underground waste.

The Mining Board shall have authority to grant permission when it believes a further recovery of oil can be obtained by use of vacuum without danger of underground waste.

RULE XI

PLUGGING OF WELLS

As provided by the Act, as amended, and to prevent waste as therein defined, any owner or manager who owns, has drilled, or has acquired a nonproductive well drilled for oil or gas, or for any other purpose in connection with the exploration and production of the same, including unused input wells, salt water disposal wells, and geological or structure test holes drilled below the glacial drift, shall be required by the Mining Board to securely plug and abandon such well in the manner herein provided, except when an extension of time has been granted by the Mining Board in writing.

(1) MINING BOARD SUPERVISION

The plugging and abandoning of wells and the consequent pulling of casing or the partial plugging back operations from one formation to another shall be under the supervision of the Mining Board and the Mining Board Representative. The Mining Board shall have authority to prohibit the plugging of a well when the equipment used is not adequate or is insufficient, in the opinion of the Mining Board, to perform the abandonment according to the Rules and Regulations.

When the casing in any well is not the property of the person owning the well, the owner of such casing is prohibited from pulling the same until he has notified a Mining Board Representative, and then shall securely plug such well under the supervision of the Mining Board in the same manner as the owner of the well is herein required.

(2) WHEN WELL TO BE PLUGGED

The owner or manager shall not permit any well drilled for oil, gas, salt water disposal or any other

purpose in connection with the production of oil and gas, to remain unplugged after such well is no longer used or held for use for the purpose for which it was drilled or converted.

Unless the operator of any such well has been granted an extension of time to plug pursuant to Section (8) of this Rule XI, such well shall be plugged when and if:

(a) drilling operations on a drilling well shall have ceased for a period of 30 days and no production string has been run.

(b) any well for which operations have ceased for a period of six (6) months, provided however, in any event, if the surface equipment is not in place on such well, the well shall be capped promptly for safety reasons.

(3) PRIOR NOTICE TO MINING BOARD REPRESENTATIVE

When the owner or manager of any inactive, nonproductive or nonoperative well desires to plug such well or partially plug back to a different formation or to withdraw casing from such well, he shall notify a Mining Board Representative and, if in an active coal mine area, notify the owner or operator of such coal mine at least eight (8) hours in advance of the time he expects to begin plugging or pulling casing. The commencement of such operations, including shooting off casing, is prohibited until an authorized Mining Board Representative is present.

(4) OWNER TO FURNISH WELL LOG

Upon arrival of the Mining Board Representative at the site of the well to be plugged or partially plugged back to a different formation, the owner or manager of the well, or his representative, shall make available to the Mining Board Representative a complete log of the well, which shall show the character and depth of all formations encountered

in the drilling of such well, particularly showing the depth and thickness of all oil-bearing strata, gas-bearing strata, water-bearing strata, and workable coal beds.

When no log is furnished by the owner, the Mining Board may require the well to be filled with cement from bottom to top, or the Mining Board may require it to be plugged in accordance with the knowledge of logs of nearby wells.

(5) PLUGGING METHODS AND PROCEDURES

(A) GENERALLY

A cement plug to protect the producing formation must be placed opposite the producing formation and extend to a point twenty (20) feet above the top of said producing formation. In cases where the history of the well shows that heavy or repeated shots in a sandstone formation, or heavy or repeated acidization in a limestone formation, render it probable that a large cavity exists within the producing formation, it is permissible to fill such cavity with sand, crushed rock, or other suitable material approved by the Mining Board in order to provide an anchor on which to place a cement plug not less than twenty (20) feet in length above the top of such producing formation. A cement plug is to be placed below the casing seat of the oil string and extend to a point twenty (20) feet above said seat and if there is a liner that is not to be withdrawn, said cement plug shall be placed at the top of the liner and extend to a point twenty (20) feet above.

No sand, gravel, or other foreign substance shall be mixed in the slurry; however, the use of an admixture of special mud materials may be used, subject to the approval of the Mining Board Representative.

(B) PROTECTION OF COAL SEAMS

Each coal seam of thirty (30) inches or more of thickness and lying above the depth of one thousand (1000) feet shall be protected by a cement plug extending one hundred (100) feet above said coal seam to a distance of fifty (50) feet below the same or to the bottom of the hole, whichever is less.

In wells penetrating an active mine or the worked out area of a mine or the undeveloped limits of a mine property having workable coal seam or seams, a substantial support shall be provided for each cement plug required for coal seam protection. The supporting plug shall consist of wood or other suitable material having adequate strength and shall be set and tested to determine that settlement or a movement of the cement plug will not take place during the period required for the setting of the cement.

(C) SHOOTING CASING IN ROTARY HOLE

In wells originally drilled by rotary tools, before any casing is shot off or otherwise parted at a point above the casing shoe, the hole must be filled with properly prepared mud of not less than thirty-eight (38) viscosity, or other suitable material, to the point of parting. After the casing is parted and withdrawn, the hole must be completely filled with mud.

A cement plug twenty-five (25) feet in length shall be placed ten (10) feet below the base of the surface casing and extend to a point at least fifteen (15) feet above the base of surface casing. The remainder of the hole shall be filled with mud.

The surface casing shall be cut off three (3) feet below the surface of the ground and a mushroomed cement cap of approximately one (1) foot in thickness shall be placed over the casing so that the top of the mushroomed cap is at least

two (2) feet below the surface of the ground. The hole shall then be filled with dirt and the surface of the ground leveled.

In the event that surface casing has not been used, a cement plug shall be placed in the hole three (3) feet below the surface to a depth of twenty-five (25) feet. A mushroomed cement cap of approximately one (1) foot in thickness shall be placed over the top of the hole so that the top of the mushroomed cap is at least two (2) feet below the surface of the ground. The hole shall then be filled with dirt and the surface of the ground leveled.

These provisions shall not exclude the placing of cement in the producing formation or opposite workable coal seams as herein provided. The surface casing of such wells shall not be withdrawn.

(D) IN WELLS DRILLED WITH CABLE TOOLS

In wells drilled and completed by cable tools, the producing formations and all workable coal seams must be protected as heretofore provided. As each string of casing is picked up or parted, it shall be raised one joint, and then approximately one-fourth ($\frac{1}{4}$) yard of native clay or mud dropped down the casing and allowed to settle below the base of casing.

When pulling casing from wells where caving occurs which partially fills the well bore the remainder of the hole shall be plugged as herein provided.

In such cases and also in wells where formation or walls of the hole do not cave, the hole shall be filled to within twenty-five (25) feet of the surface with native clay or Bentonitic materials.

In areas where in the drilling of the well it was necessary to drive pipe for the outside string

in order to prevent caving or to protect fresh water horizons or formations, this drive pipe shall be left in place and not removed.

Where drive pipe is used it shall be cut off three (3) feet below the surface of the ground and a twenty-five (25) foot cement plug run inside the drive pipe and anchored thereto.

Where surface casing has been pulled, a cement plug shall be placed at a point three (3) feet below the surface to a depth of twenty-five (25) feet.

In either event where drive pipe is used or the surface casing has been pulled, a mushroomed cement cap of approximately one (1) foot in thickness shall be placed at a point three (3) feet below the surface of the ground and allowed to mushroom until the diameter of the cement plug is at least three (3) times the diameter of the hole drilled, then the hole shall be filled with dirt and the surface of the ground leveled.

(E) WHEN CASING LEFT IN HOLE

In wells where casing is not removed when wells are abandoned, the plugging operation shall be done in the same manner as provided for abandoning wells where casing is withdrawn.

(F) FOREIGN MATERIAL PROHIBITED

No person shall knowingly or purposely place or lodge any foreign material or substance in an unplugged well which will either fill or bridge such hole.

When foreign material has been knowingly or purposely placed in the hole the Mining Board may require such material to be removed before plugging operations are commenced.

(G) PLUGGING BRIDGED HOLE

When in normal production or drilling operations the hole becomes plugged or obstructed because of loss of drilling tools or producing

equipment which it would be impractical or impossible to remove, special consideration shall be allowed and the well shall be plugged as nearly to the aforementioned requirements as existing circumstances will permit. The exact method of plugging and the equipment lost shall be shown on the plugging affidavit.

(6) CONVERTING TO WATER WELL

When the fee owner of the surface desires to utilize a well to be abandoned for fresh water purposes, such well need not be filled above the fresh water strata or bed, but a twenty-five-foot (25) cement plug shall be placed immediately below such fresh water bed, provided, however, written authority for such use is secured from the fee owner who shall also sign and file with the Mining Board a release form furnished by the Mining Board, thereby releasing the owner, manager, or operator from all responsibility and statutory or other requirements for the further plugging of said well.

(7) RESTORATION OF SURFACE

Leaving the surface of lands with a part of the operating structure or other equipment intact after abandoning or plugging a well or wells is against public policy and constitutes public nuisances and shall be hereafter prohibited. Whenever any owner or manager shall abandon or plug a well or wells he shall within six (6) months thereafter clear the area around the location of all refuse material, burn waste oil, drain and fill all excavations, remove concrete bases, machinery and materials, and level the surface to leave the site as nearly as possible in the condition encountered when operations were commenced, unless the fee owner of the surface of said land and the owner or manager have entered into a written contract providing otherwise. A copy of this contract shall be filed with the Mining Board for their approval.

When the fee owner of the surface desires to utilize the pits dug in connection therewith, the fee owner shall sign and file with the Mining Board a release form furnished by the Mining Board, thereby releasing the owner, manager, or operator from all responsibility and statutory or other requirements for the further filling of the pits.

Any person, firm, association, partnership or corporation violating the provisions of this Act shall be subject to penalties of the Public Nuisance Act as set forth in Section 222 of the Criminal Code of the Illinois Revised Statutes.

(8) EXTENSION OF TIME TO PLUG WELL

Upon written application for an extension of time to defer the plugging and abandonment of any unplugged well, the Mining Board, at its discretion, may grant such extension for a reasonable period of time when good cause can be shown by the person making the application, and providing the casing is all left in the well and is in sound condition. If water was encountered which will flood oil-bearing formations exposed in the open hole, the water-bearing formation below the casing seat shall be plugged off with cement. The top of the casing shall be securely capped.

Requests for an extension of time to plug shall be granted by the Mining Board if the cause shown by the operator shall be for the use of future possible production or other good causes. The extension of time granted by the Mining Board shall and hereby does require the operator to notify the Mining Board of any change in status of the well. Any extension of time to plug shall be on a non-transferable basis.

If no bond covering such well is then in effect, a bond shall be given before the extension is granted, and such bond shall remain in full force and effect until the well is plugged and the other requirements of final abandonment have been completed.

At the expiration of any extension granted, the well shall be plugged and abandoned if a further extension is denied by the Mining Board.

(9) FILING PLUGGING AFFIDAVIT

Immediately after the plugging of any well has been accomplished, an affidavit shall be executed in duplicate and jointly signed by the owner or manager or his representative and the Mining Board Representative who supervised the plugging operation. The plugging affidavit, in duplicate, on a form furnished by the Mining Board, shall be filed in the office of the Oil and Gas Division of the Department of Mines and Minerals at Springfield, Illinois.

RULE XI-A

SEALING OF ABANDONED WATER WELLS

1. GENERAL

Unsealed abandoned wells constitute a hazard to public health and welfare. The sealing of such wells presents a number of problems, the character of which depends upon the construction of the well, the geological formations encountered, and the hydrologic conditions. To seal an abandoned well properly, several factors must be considered: (1) eliminating physical hazard; (2) preventing contamination of ground water; (3) conserving yield and hydrostatic head of aquifers; (4) preventing intermingling of desirable and undesirable waters; and (5) to protect possible tunnel or mining operations.

The basic concept of proper sealing of abandoned wells is the restoration, as far as feasible, of the controlling geological conditions that existed before the well was drilled and constructed. If this restoration can be accomplished, all the objectives of sealing wells heretofore presented will be adequately fulfilled.

To seal an abandoned well properly, the type of occurrence of the ground water at the particular well to be sealed must be recognized. If the ground water occurs under water table conditions, the chief problem is that of sealing the well with impermeable material to prevent the percolation of surface water through the original well opening or along the outside of the casing to the water table. If the ground water occurs under artesian conditions, the driller should be equipped to remove obstructions interfering with sealing operations and to provide for placing the sealing materials in the most effective manner. The sealing operations must confine the water to the aquifer

in which it occurs, thereby preventing loss of artesian pressure by circulation of water to the surface, to a formation containing no water, or to one containing water under a lower head than that of the aquifer being sealed.

Usually a well should be checked before it is sealed in order to insure freedom from obstructions that may interfere with effective sealing operations. This check is especially important in wells that may conduct contaminated or otherwise objectionable water into aquifers yielding potable waters. Removal of liner pipe from some wells may be necessary to assure placement of an effective seal. If liners or casings opposite water-bearing zones cannot be readily removed, they should be split with a casing ripper to assure the proper sealing of water-bearing zones with the sealing material. At least the upper portion of the casing should be removed to prevent surface water from entering the water-bearing strata by following down the casing. This operation is not always essential if the annular space around the outside of the casing was cemented when the well was drilled.

Neat cement, when used as a sealing material below the water level in the well, should be placed from the bottom up by methods that will avoid segregation or dilution of material. Piping cementing materials directly to the point of application or placement by means of a dump bailer or tremie is recommended. Other sealing materials referred to hereafter, except mud-laden or special clay fluids, can, as a rule, be gradually introduced into the top of the well.

Employment of a licensed well contractor or other person having received prior certification by the Department to accomplish sealing of a drilled well or one in creviced formation is required. His knowledge of well construction and the geological conditions of the region will be valuable in the proper abandonment of a well just as it is in the

construction of a new well. It may be advantageous to call in a consulting engineer or a representative of the State Health Department or other department having jurisdiction.

A log of the well, with information on construction, may be on file at the State Geological Survey. The Geological Survey can provide information on the probable sequence of formations present at the site in case the specific log has not been filed.

The recommendations contained herein pertain to wells in consolidated and unconsolidated formations, to those of small or large diameter, and to test wells. Each sealing job should be considered as an individual problem and methods and materials should be determined only after carefully considering the objectives outlined in the first paragraph of this section.

2. WELLS IN UNCONSOLIDATED FORMATIONS

Abandoned wells extending only into unconsolidated formations near the surface and containing water under water table conditions normally can be adequately sealed by filling with concrete, cement grout, neat cement, clay, or clay and sand. In the event the water-bearing formation consists of coarse gravel and producing wells are located nearby, care must be taken to select sealing materials that will not affect the producing wells. Concrete may be used if the producing wells can be shut down for a sufficient time to allow the concrete to set and if the concrete is placed (usually under water) without segregation of cement from aggregate. Clean, disinfected sand or gravel may also be used as fill material opposite the water-bearing formation. The remainder of the well and always the upper portion shall be filled with clay, concrete, cement grout, or neat cement to exclude surface water. The latter method, using clay as the upper sealing ma-

terial, would be especially applicable to large-diameter abandoned wells.

In gravel - packed, gravel - envelope, or other wells in which coarse material has been added around the inner casing to within 20 - 30 feet of the surface, sealing outside the casing is very important. Sometimes this sealing may require removal of the gravel or perforated casing or screens.

3. WELLS EXTENDING INTO CREVICED ROCK FORMATIONS

Abandoned wells that penetrate limestone or other creviced or channelized rock formations lying immediately below the surface deposits should be filled with neat cement* to assure permanence to the seal. The use of clay or sand in such wells is not desirable because fine-grained fill material may be displaced by flow of water through the crevices or channels. Pea gravel may be used for fill material through the water-producing horizon if limited vertical movement of water in the formation will not affect the quality or quantity of water in producing wells. Only neat cement shall be used in this type of well as seal material in that portion of the well between a point not less than 10 feet above and 10 feet below the bottom of the casing, and also to form a plug above the creviced formation. Clay or impervious material may be used to fill the upper part of the well.

4. WELLS EXTENDING INTO NONCREVICED ROCK FORMATIONS

Abandoned wells encountering noncreviced sandstone, or other water-bearing consolidate formations below the surface deposits, may be satisfactorily sealed by filling the entire depth with clay, provided there is no movement of water in the well. Disinfected clean sand or pea gravel

* Neat cement should contain 1½% by volume of bentonite or other suitable colloidal reagent to control shrinkage.

shall be used through the sandstone up to a point 10 feet above and 10 feet below the bottom of the casing. The upper portion of this type of well shall be filled with concrete, neat cement, cement grout, clay or other impervious material to provide an effective seal against the entrance of surface water. If there is an appreciable amount of upward flow, pressure cementing with neat cement or other material approved by the Department shall be used.

5. WELLS EXTENDING INTO MORE THAN ONE AQUIFER

Some special problems may develop in sealing wells extending into more than one aquifer. These wells shall be filled and sealed in such a way that exchange of water from each aquifer to another is prevented with the minimum requirement of a cement plug of not less than 30 feet in each section of impervious material in the natural formation. If no appreciable movement of water is encountered, filling shall be with neat cement, cement grout, or alternate layers of these materials and sand or pea gravel. When velocities are high, the procedures outlined in "Wells With Artesian Flow" are recommended. If alternate concrete plugs or bridges are used, they shall be placed in known non-producing horizons, or at frequent intervals when location of the non-producing horizons is not known. Sometimes, when the casing is not grouted or the formation is non-caving, it may be necessary to break or slit the casing to fill any annular space on the outside.

6. WELLS WITH ARTESIAN FLOW

The sealing of abandoned wells that have a large movement of water between aquifers or the surface requires special attention. Frequently the movement of water may be sufficient and the differential pressure may be so great to make sealing by gravity placement of concrete, cement grout, neat cement, clay or sand impractical. In

such wells, a cement retainer shall be used with pressure grouting equipment utilized to place cement grout. Lead wool, steel shavings, a well packer, or a wood or cast-lead plug or bridge will be needed to restrict the flow to permit the gravity placement of sealing material above the formation producing low flows with low differential pressures. If pre-shaped or pre-cast plugs are used, they shall be of sufficient length to prevent tilting.

Inasmuch as it is so important in wells of this type to prevent circulation between formations or loss of water to the surface, or to the annular space outside the casing, pressure cementing with neat cement and the minimum quantity of water that will permit handling shall be employed.

In wells in which the hydrostatic head producing flow to the surface is low, the movement of water may be arrested by extending the well casing to an elevation above the artesian pressure surface. Previously defined applicable sealing methods to fit geological conditions can then be used effectively.

7. SEALING MATERIALS

A number of materials for sealing wells satisfactorily, including concrete, cement grout, neat cement, clay or combinations of these materials, are mentioned herein. Each material has certain characteristics and distinctive properties; accordingly, one material may be especially suited for doing a particular job. The selection of the material must therefore be based on the construction of the well, the nature of the formations penetrated, the material and equipment available, the location of the well with respect to possible sources of contamination and the cost of doing the work.

Neat cement is generally used for filling the upper part of the well or water-bearing formation. For plugging short sections of casings or for filling

large diameter wells, concrete may be used. If not properly placed, however, the aggregate is apt to separate from the cement, and concrete will not penetrate seams, crevices, or interstices.

Neat cement is far superior for sealing small openings, for penetrating any annular space outside of casings, and for filling voids in the surrounding formation. When applied under pressure, it is strongly favored for sealing while under artesian pressure or those encountering more than one aquifer. Neat cement is preferred to a grout as it avoids the danger of separation.

Clay as a heavy mud-laden or special clay fluid applied under pressure does not set but is preferred by some competent authorities, but others feel that it may, under some conditions, eventually be carried away into the surrounding formations.

Clay in a relatively dry state or clay and sand may be used advantageously, particularly under water table conditions where diameters are large, depths are great, formations are caving, and there is no need of achieving penetration of openings in casing, liners, or formations, or of obtaining a water-tight seal at any given spot.

Frequently combinations of these materials are necessary. The more expensive materials are used when strength, penetration, or water-tightness is needed, the less expensive materials being used for the remainder of the well. Cement grout or neat cement is now being mixed with specially processed clays and with various aggregates. Superior results and economies are claimed for such mixtures.

8. WHEN WELL TO BE SEALED

The owner shall not permit any well drilled for water to remain unplugged thirty (30) days after it is abandoned and no longer used for the purpose for which it was drilled.

9. FILING AFFIDAVIT

Immediately after sealing of any well has been accomplished, and affidavit shall be executed in duplicate and signed by the owner or person, firm or corporation having custody or control of well at the time of the sealing operation before a Notary Public. This affidavit, in duplicate, on a form furnished by the Mining Board, shall be filed in the office of the Oil and Gas Division of the Department of Mines and Minerals at Springfield, Illinois.

RULE XII

VALIDITY OF RULES AND REGULATIONS

In case any word, phrase, sentence, or other portion of these Rules and Regulations shall hereafter be declared invalid, such invalidity shall not affect the remaining portions and parts of the Rules and Regulations adopted or promulgated by the Department.

All former Rules and Regulations heretofore adopted by the Department are replaced and superseded by these Rules and Regulations upon their adoption by the Mining Board.

MINING BOARD FORMS

Form OG 10-B Rev.—Application for Authorization to Drill, Deepen or Convert a Well.

Form OG-2—Revised—Application for Salt Water Disposal Well.

Form OG-3 Revised—Application for Gas or Water Input Well For Secondary Recovery.

Form OG-4—Pit application.

Form OG-5—Application for Pit renewal.

Surety Bond Form—For Individual Well or Blanket Bond.

Cash Bond Form—For Individual Well or Blanket Bond.

Suggested Form—Power of Attorney.

Report—Notice of Well Completion.

Form of—Release signed by landowner releasing operator of responsibility for filling pits.

Form of—Release signed by landowner releasing operator where top portion of well bore left unplugged for use as fresh water well.

Form for—Request to Cancel Bond.

Form of—Statement of Ownership.

Form OG-7—Application to Drill Water Well.

Not Distributed to Public:

Form O.G. 6—Well Plugging Affidavit.

Form for—Notice of Violation.

Form for—Cancellation of Bond.

Form OG-8—Water Well Plugging Affidavit.



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STATE OF ILLINOIS
RICHARD B. OGILVIE, Governor



AN ACT IN RELATION TO OIL,
GAS, COAL AND OTHER
SURFACE AND UNDERGROUND
RESOURCES

and

RULES AND REGULATIONS

DEPARTMENT OF MINES & MINERALS

L. LEON RUFF
DIRECTOR

DIVISION OF OIL AND GAS

GEORGE R. LANE, Petroleum Engineer

(Printed by Authority of the State of Illinois)

REVISED EDITION

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RICHARD B. OGILVIE, Governor



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I N D E X

	Page
OIL, GAS and COAL ACT.....	2-25
RULES and REGULATIONS	26-90-91

R U L E I

GENERAL PROVISIONS	27-33
Definitions	27-29
Prevention of Waste	30
Jurisdiction	30
Enforcement of Act	30
Delegation of Authority	30
Right of Inspection	31
Right of Access	31
Sworn Statements	31
Additional Reports	32
When Rules and Regulations Become Effective.....	32
Notice of Rules and Regulations.....	32
Forms	32
Hearings—Notice	33
Public Hearings	33
Publisher's Certificate	33
Other Hearings	33

R U L E II

PERMITS	34-43
Application to be Filed	34
Copy of Evidence of Ownership to be Attached.....	34
When Permit to be Issued.....	35
Permit Issued to Owner or Manager.....	35
Permit Posted at Well Site	35
Authority to Deny Permit.....	35
Permits Not Transferable	36
Application for Permit to Drill, Deepen or Convert	
Well	36
Requirements	36
Drill Out or Deepen Plugged Well.....	36
Contents of Application	36
Fee	37
Expiration of Permit	38
Change of Location	38
Directional Drilling	38
Application for Permit for Test Hole or Water	
Supply Well	39
Permits for Salt Water Disposal or for Gas, Air,	
Water, or Other Liquid Input Wells	39
Requirements for Permit	39
Notice to Other Owners or Managers.....	40
Authority to Deny Permit	41
Authority to Suspend Operations	41
Fee	41
Permit Requirements in Mine Areas.....	41
For Well Penetrating Mine	41
Agreement With Mine Owner.....	42
Requirements in Absence of Agreement.....	42
Requirements in Inactive Mining Areas.....	42
Notice to Mine Owner	43
Maps Available at Well Site.....	43

RULE III

	Page
BONDS	44-46
When Bonds Required—Amount.....	44
Kind of Bond—Execution.....	44
Surety or Cash Bond	44
Personal Bond	44
Execution of Bond	45
Bond of Manager	45
Bond Form—Approval	45
Surety May Cancel Bond	45
Requirements Before Bond May Be Canceled.....	46
Mining Board May Cancel Bond	46
Casing Puller's Bond	46

RULE IV

SPACING OF WELLS	47-55
General Spacing Rules	47
Wells Drilled or Deepened	47-50
Separately Owned Tracts Within Drilling Unit.....	50
Twin Wells	51
Wells Within Corporate Limits.....	51
Exceptions	51-53
Secondary Recovery	53
Pattern Flood	53
Other Floods.....	54
Record to be Kept	54-55
Nonconforming Well to be Plugged.....	55

RULE V

FILING OF LOGS AND WELL INFORMATION.....	56-57
Return of Completion Report.....	56
Well Log to be Filed.....	56
Contents of Well Log.....	56-57
Collection of Drill Cuttings.....	57

RULE VI

IDENTIFICATION OF LEASES AND TRANSFER OF MANAGEMENT	58
Lease and Well Identification.....	58
Transfer of Management	58
Responsible Ownership Representative.....	58

RULE VII

WASTE PROHIBITED	59-60
Avoidable Waste of Gas	59
Escape of Unburned Gas Prohibited.....	59
Burn-off Pits	59-60
Lease Tank Reservoirs	60
Fire Hazards at Well Locations.....	60

RULE VIII

PROTECTION OF WORKABLE COAL BEDS.....	61-66
Workable Coal Beds Defined.....	61
Mining Board May Determine Presence of Coal Seams.....	61-62
Well Locations Prohibited	62
Notice to Mining Board	62
Casing and Protective Work	62
Operational Requirements Over Active Mine.....	62
Mining Board to Determine Safety Factors.....	62-63
Drilling Methods and Procedure.....	63
General	63
Mine Protective String.....	63-64
Cementing Oil String	64
Temperature Survey Required	65

	Page
Shooting Wells Over Active Mines or Worked Out	
Portions of Active Mines.....	65
Shot Less Than Fifty Quarts	65
Shot Exceeding Fifty Quarts.....	66

RULE IX

AVOIDANCE OF FRESH WATER POLLUTION AND DISPOSAL OF SALT WATER OR OTHER LIQUIDS TO PREVENT WASTE AS DEFINED IN THE ACT	67-71
Disposal in Underground Stratum.....	67
Disposal in Earthen Pits	67
New Pits	67-68
Existing Pits	68-69
Pipes to be Kept in Repair.....	69
Slush and Mud Pits	69
Rotary Drilling Procedure	69-70
Cable Tool Drilling Rules	70
Mining Board Supervision	71
Yearly Inspection of Pits—Revocation of Permits—Orders for Corrective Action and Other Disposal ...	71

RULE X

VACUUM	72-73
Application for Use of Vacuum.....	72
Notice and Hearing on Application.....	72-73
Mining Board Authority	73

RULE XI

PLUGGING OF WELLS	74-82
Mining Board Supervision.....	74
When Well to be Plugged	74-75
Prior Notice to Mining Board Representative.....	75
Owner to Furnish Well Log	75-76
Plugging Methods and Procedures.....	76
Generally	76
Protection of Coal Seams.....	77
Shooting Casing in Rotary Hole.....	77-78
In Wells Drilled with Cable Tools.....	78-79
When Casing Left in Hole.....	79
Foreign Material Prohibited	79
Plugging Bridged Hole	79-80
Converting to Water Well	80
Restoration of Surface	80-81
Extension of Time to Plug Well	81-82
Filing Plugging Affidavit	82

RULE XI-A

SEALING OF ABANDONED WATER WELLS.....	83-90
General	83-85
Wells in Unconsolidated Formations.....	85-86
Wells Extending into Creviced Rock Formations.....	86
Wells Extending into Noncreviced Rock Formations.....	86-87
Wells Extending into More than One Aquifer.....	87
Wells with Artesian Flow	87-88
Sealing Materials	88-89
When Well to be Sealed	89
Filing Affidavit	90

RULE XII

VALIDITY OF RULES AND REGULATIONS	91
MINING BOARD FORMS	92

“An Act in relation to oil, gas, coal and other surface and underground resources.”

BE IT ENACTED BY THE PEOPLE OF THE STATE OF ILLINOIS, REPRESENTED IN THE GENERAL ASSEMBLY:

Sec. 1. Unless the context otherwise requires, the words defined in this Section have the following meanings as used in this Act.

“Person” means any natural person, corporation, association, partnership, receiver, trustee, guardian, executor, administrator, fiduciary or representative of any kind.

“Oil” means natural crude oil or petroleum and other hydrocarbons, regardless of gravity, which are produced at the well in liquid form by ordinary production methods or by the use of an oil and gas separator and which are not the result of condensation of gas after it leaves the underground reservoir.

“Gas” means all natural gas, including casing-head gas, and all other natural hydrocarbons not defined above as oil.

“Pool” means a natural, underground reservoir containing, in whole or in part, a natural accumulation of oil or gas, or both. Each productive zone or stratum of a general structure, which is completely separated from any other zone or stratum in the structure, is deemed a separate “pool” as used herein.

“Field” means the same general surface area which is underlaid or appears to be underlaid by one or more pools.

“Owner” means the person who has the right to drill into and produce from any pool, and to appropriate the production either for himself or for himself and another, or others.

“Manager” means the operator, whether the owner or not, of a well or wells drilled for oil or gas, or both.

“Department” means the Department of Mines and Minerals. “Director” means the Director of the Department of Mines and Minerals.

“Mining Board” means the State Mining Board in the Department of Mines and Minerals.

“Waste” means “physical waste” as that term is generally understood in the oil and gas industry; and further includes:

(1) the locating, drilling and producing of any oil or gas well or wells drilled contrary to the valid order, rules and regulations adopted by the Mining Board under the provisions of this Act.

(2) permitting the migration of oil, gas, or water from the stratum in which it is found, into other strata, thereby ultimately resulting in the loss of recoverable oil, gas, or both;

(3) the drowning with water of any stratum or part thereof capable of producing oil or gas, except for secondary recovery purposes;

(4) the unreasonable damage to underground, fresh or mineral water supply, workable coal seams, or other mineral deposits in the operations for the discovery, development, production, or handling of oil and gas;

(5) the unnecessary or excessive surface loss or destruction of oil or gas resulting from evaporation, seepage, leakage or fire, especially such loss or destruction incident to or resulting from the escape of gas into the open air, provided, however, it shall not be unlawful for the operator or owner of any well producing both oil and gas to burn such gas in flares when such gas is, pursuant to the other provisions of this Act, lawfully produced, and where there is no market at the well for such escaping gas; and where the same is used for the extraction of casinghead gas, it shall not be unlawful for the operator of the plant after the process of extraction is completed, to burn such

residue in flares when there is no market at such plant for such residue gas;

(6) permitting unnecessary fire hazards;

(7) permitting unnecessary damage to or destruction of the surface, soil, animal, fish or aquatic life or property from oil or gas operations.

“Drilling Unit” means the surface area allocated by an order or regulation of the Mining Board to the drilling of a single well for the production of oil or gas from an individual pool.

Sec. 1.1. Waste as defined by this Act is prohibited.

Sec. 1.2. The Oil and Gas Board, in the Department of Mines and Minerals, shall be subject to call of the Mining Board for advice and consultation concerning:

1. The interpretation of rules, regulations, and laws affecting the conservation of oil and gas.

2. The promulgation of new rules and regulations pertaining to the conservation of oil and gas.

3. Technical information and operations concerning the improvement of methods, conditions, and equipment for the production of oil and gas.

4. The proper drilling, casing and plugging of oil wells.

5. The issuing of proper permits to drill oil and gas wells.

6. Any and all other subjects about which the Mining Board should seek information in relation to the oil and gas industry, except in situations involving drilling or operations through veins or seams of mineable coal, in which situations the entire authority and discretion shall remain in the Mining Board.

Sec. 2. The provisions of this Act do not apply to mine or quarry drill or blast holes, nor to seismograph test holes, or to holes drilled to explore strippable coal.

The provisions of this Act do not apply to geological or structure test holes, except that notification of intent to drill shall be filed with the

Mining Board, and permit shall be obtained as provided in clause (2) of Section 6 of this Act and except that all geological or structure test holes drilled below the glacial drift shall be plugged under the supervision of the Mining Board.

Sec. 2.1. The provisions of this Act do not apply to wells drilled for water (not including wells drilled or used for the purpose of obtaining or prospecting for oil, natural gas, minerals or products of mining or quarrying or for inserting media to repressure oil or natural gas bearing formation or for storing petroleum, natural gas or other products or for observation or any other purpose in connection with the development or operation of a gas storage project), except that any well drilled for water which is at any time abandoned shall be plugged as provided in clause (1) of Section 6 and in Section 19 of this Act, and any violation or threatened violation of such sections shall be restrained as provided in Section 11, and except that notification of intent to drill any water well shall be filed with the Board in such form as the Board may prescribe and, in the case of wells drilled for water which penetrate the sub-surface below the glacial drift, a permit shall be obtained as provided in clause (2) of Section 6 of the Act and shall be accompanied by payment of a fee of \$10.00 in the form provided in Section 14 of this Act, such permit to expire one year from the date of issuance thereof; provided, that nothing herein requires that any person filing notification of intent to drill a water well or applying for a permit to drill a water well penetrating the sub-surface beneath the glacial drift is required to execute or file with the Mining Board a bond in any amount.

Sec. 3. The Mining Board shall be charged with the duty of enforcing this Act and all rules, regulations and orders promulgated in pursuance of this Act.

The Mining Board may authorize, in writing, any employee of the Department, qualified by training and experience, to perform in the Board's stead the powers and duties set forth in this Act, which do not require the exercise of administrative discretion.

Sec. 4. The Mining Board shall have jurisdiction and authority over all persons and property necessary to enforce effectively the provisions of this Act.

Sec. 5. The Mining Board shall have the authority and it shall be its duty, to employ all necessary personnel to carry out the provisions of this Act; to fix their compensation; to designate their headquarters and to define their duties. The aforesaid personnel shall be subject to the provisions of the "Personnel Code," enacted by the 69th General Assembly.

Sec. 6. The Mining Board shall have the authority to call hearings, to make, after hearing and notice as hereinafter provided, such reasonable rules, regulations, and orders as may be necessary from time to time in the proper administration and enforcement of this Act, including Rules, Regulations and Orders for the following purposes: (1) to require the drilling, casing and plugging of wells to be done in such a manner as to prevent the migration of oil, gas, or water from one stratum to another; to prevent the intrusion of water into oil, gas or coal strata; to prevent the pollution of fresh water supplies by oil, gas or salt water, (2) to require the person desiring or proposing to drill any well in search of oil, gas, or water, before commencing the drilling of any such well, to make application to the Mining Board upon such form as the Mining Board may prescribe and to comply with the following provisions, viz: The drilling of any well is hereby prohibited until such application is made and the applicant is entitled to a permit therefor as provided by this Act; each application for a well permit shall in-

dicade the exact location of such well, the name and address of the manager, operator, contractor, driller, or any other person responsible for the conduct of drilling operations, the proposed depth of the well, and such other relevant information not involving ownership as the Mining Board may deem necessary or convenient to effectuate the purposes of this Act; each applicant previous to drilling for oil or gas or any other purpose in connection therewith, and each manager or operator who has acquired or may hereafter acquire any well drilled for these purposes which has not theretofore been plugged and abandoned in accordance with the laws, rules, regulations and orders of the Mining Board, shall execute and file with the Mining Board a bond of \$1,000.00 for each of such wells, or in lieu thereof, a blanket bond in the sum of \$2,500.00 for all wells, provided that, nothing herein shall be construed to require more than one bond for such well at any one time, although successive bonds may be required until the well is abandoned and plugged; and each of such bonds shall be approved by the Mining Board on a form to be prescribed by the Mining Board, and shall provide for the compliance of plugging such well, or wells, the filling of all excavations, the removal of all concrete bases, discarded machinery and material, and restoring the surface as nearly as possible to its former condition before such well, or wells, was drilled; and such bond shall be renewed and be continued in effect until the aforesaid conditions have been fully complied with. In event of the assignment and transfer of the property covered by any bond, it shall remain in full force and effect until the approval by the Mining Board of a similar bond which has been executed by the new owner and filed with it. (3) To require the filing of logs, including electric logs, and drilling records, and the lodgment in the office of the State Geological Survey of typical drill cuttings or cores, if cores are taken, within 30 days from the time of

the completion of any well. (4) To prevent "blow-outs," "caving" and "seepage" in the same sense that conditions indicated by such terms are generally understood in the oil and gas business. (5) To prevent fires. (6) To ascertain and identify the ownership of all oil and gas wells, producing leases, refineries, tanks, plants, structures, and all storage and transportation equipment and facilities. (7) To regulate the secondary recovery in oil pools and oil fields. (8) To regulate or prohibit the use of vacuum. (9) To regulate the spacing of wells, the issuance of permits, and the establishment of drilling units. (10) To regulate directional drilling of oil or gas wells. (11) To regulate the plugging of wells. (12) To require that wells for which no logs or unsatisfactory logs are supplied shall be completely plugged with cement from bottom to top. (13) To require a description in such form as is determined by the Mining Board of the method of well plugging for each well, indicating the character of material used and the positions and dimensions of each plug. (14) To prohibit waste, as defined in this Act. (15) To require the furnishing of such relevant information as the Mining Board may from time to time deem necessary or convenient to carry into effect the purposes of this Act.

For the purposes of this Act, the State Geological Survey shall co-operate with the Mining Board in making available its scientific and technical information on the oil and gas resources of the State, and the Mining Board shall in turn furnish a copy to the State Geological Survey of all drilling permits as issued, and such other drilling and operating data received or secured by the Mining Board which are pertinent to scientific research on the State's mineral resources.

Whenever rules, regulations or orders are mentioned in this Act, such terms have no application to any action by the Mining Board for the management of the internal affairs thereof.

Sec. 6.1. When the applicant has complied with all applicable provisions of this Act and the rules and regulations adopted by the Mining Board pursuant thereto concerning application for and the issuance of permits for the drilling of a well for oil or gas purposes upon a unit established under such rules, regulations and orders of the Mining Board, the Mining Board shall issue the permit.

Sec. 7. The Mining Board shall have the right at all times to go upon and inspect oil and gas properties from which oil or gas is being produced, or where drilling operations have been or are being conducted for the purpose of ascertaining whether the provisions of this Act and the Orders, Rules and Regulations made in pursuance of this Act are being complied with.

Sec. 8. The Mining Board shall have the authority and it shall be its duty to make such inquiries as it may think proper to determine whether or not waste, over which it has jurisdiction, exists or is imminent. In the exercise of such power the Mining Board shall have the authority to collect data; to make investigation and inspections; to examine properties, including drilling records and logs; to examine, check and test oil and gas wells; to hold hearings; and to take such action as may be reasonably necessary to enforce this Act.

Sec. 8A. The Mining Board shall have the power and authority to regulate the disposal of salt or sulphur-bearing water and any oil field waste produced in the operation of any oil or gas well, and to adopt proper rules and regulations relative thereto.

Sec. 8B. No person shall drill, convert or deepen a well for the purpose of injecting gas, air, water or other liquid into any underground formation or strata without first securing a permit therefor. Such permit shall be obtained as provided in clause (2) of Section 6 and is subject to the fee prescribed in Section 14. The Mining

Board may prescribe appropriate rules and regulations to implement this Section and to prevent waste, as defined in this Act, in connection with such wells.

Sec. 9. (a) The Mining Board shall prescribe rules of order for procedure in hearings or other proceedings before it under this Act. (b) No rule, regulation or order, including change, renewal or extension thereof, shall, in the absence of an emergency, be made by the Mining Board under the provisions of this Act except after a public hearing upon at least ten days' notice given in the manner and form as may be prescribed by the Mining Board. Such public hearing shall be held at such time, place and in such manner as may be prescribed by the Mining Board and any person having any interest in the subject matter of the hearing shall be entitled to be heard. (c) In the event an emergency is found to exist by the Mining Board which requires the making, changing, renewal, or extension of a Rule, Regulation or Order without first having a hearing, such emergency rule, regulation or order shall have the same validity as if a hearing with respect to the same had been held after due notice. The emergency rule, regulation or order permitted by this subsection shall remain in force no longer than fifteen days from its effective date, and, in any event, it shall expire when the rule, regulation or order made after due notice and hearing with respect to the subject matter of such emergency Rule, Regulation or Order becomes effective.

(d) All Rules, Regulations and Orders made by the Mining Board shall be in writing and shall be entered in full in a book to be kept for such purpose by the Mining Board, which shall be a public record and open to inspection at all times during reasonable office hours. A copy of such Rule, Regulation, or Order, certified by the executive officer of the Mining Board, shall be received in evidence in all courts of this State with the same effect as the original. (e) Any interested person shall have the

right to have the Mining Board call a hearing for the purpose of taking action in respect to any matter within its jurisdiction by making a request therefor in writing. Upon the receipt of any such request the Mining Board promptly shall call a hearing thereon, and, after such hearing, and with all convenient speed and in any event within thirty (30) days after the conclusion of such hearing, shall take such action with regard to the subject matter thereof as it may deem appropriate.

Sec. 10. Any interested person affected by this Act or by any Rule, Regulation or Order made or promulgated by the Mining Board hereunder, who may be dissatisfied therewith, shall have the right to file a suit in the Circuit Court of the county wherein is situated any part of the land which is the subject matter of such action, to test the validity of any provision of this Act or any Rule, Regulation or Order made or promulgated hereunder. Such suit shall be advanced for trial and be determined as expeditiously as feasible, and no postponement, or continuance thereof shall be granted except for reasons deemed imperative by the court. In such trials, the burden of proof shall be upon the party complaining of the validity of this Act or any provision thereof or any Rule, Regulation or Order made or promulgated hereunder and any such Rule, Regulation or Order so complained of shall be deemed *prima facie* valid. An appeal may be taken from the ruling of the court as in other civil actions.

Sec. 11. Whenever it shall appear that any person is violating or threatening to violate any provision of this Act, or any Rule, Regulation or Order made hereunder, and unless the Mining Board, without litigation, can effectively prevent further violation or threat of violation, then the Mining Board, through the Attorney General, who may call to his assistance the State's Attorney of the county in which suit is instituted, shall bring suit in the name of the people of the State of Illinois against such

person in the circuit court of the county wherein is situated any part of the land which is the subject matter of such action, to restrain such person from continuing such violation or from carrying out the threat of violation. In such suit the Mining Board, in the name of the People of the State of Illinois, may obtain such injunctions, prohibitory and mandatory, including temporary restraining orders and temporary injunctions, as the facts may warrant.

Sec. 12. Before any drilling or deepening for oil or gas is done it shall be the duty of the person, having the custody or control of any land upon which he desires to drill, to secure from the Mining Board a permit for such drilling.

Sec. 13. Where an application is made to drill or deepen an oil or gas well within the limits of any city, village or incorporated town, the application shall so state, and be accompanied with a certified copy of the official consent of the municipal authorities for said well to be drilled, and no permit shall be issued unless consent is secured and filed with the application. In the event that an amended location is selected, the original permit shall not be valid unless a new certified consent is filed for the amended location.

Sec. 14. Each application for permit to drill, deepen or convert shall be accompanied by a bank draft, check, or post office or express money order for forty dollars (\$40.00) payable to the State of Illinois, same to be deposited with the Treasurer of the State of Illinois, except that there is no fee for geological or structure test holes or water supply wells.

Sec. 15. Any permit to drill a well for oil or gas shall expire one year from the date of issuance unless acted upon prior thereto by the commencement of drilling operations which are to be continued with due diligence. It shall in all respects be sub-

ject to the provisions of this Act and the rules, regulations, limitations and penalties herein provided or which may hereafter be adopted for the drilling, operation or plugging of oil or gas wells, or other drilling operations.

Sec. 16. Every owner or operator of any oil or gas well may appoint a person to act as his Attorney in fact to execute applications for permits to drill oil or gas wells, or any wells in connection therewith, and to execute bonds and any other papers relative to such permits. Such owner or operator shall file with the Mining Board a properly executed power of attorney on a form acceptable to the Mining Board. Every person so appointing an Attorney in fact shall, within five days after the termination of any such appointment, notify the Mining Board in writing of such termination.

Sec. 17. In case any person drilling an oil or gas well shall request a location over a portion of the coal where mining operations have not heretofore been conducted and where coal is in place, then said well shall be drilled and sunk with due regard for the plans for future development and extensions of said seams.

Sec. 18. In no event shall any high explosive be exploded in any well until twenty-four hours' notice of the intention has been given to the owner of any working coal seam.

Sec. 19. If when a well is sunk and there is no oil, gas, or water found and such hole is what is commonly known as a "barren well" or "dry hole," or when a well is abandoned, then such hole shall be plugged in accordance with Rules and Regulations and Orders formulated in pursuance of the provisions of this Act. The Mining Board shall have power to determine what constitutes abandonment.

Sec. 19.1. Abandoned, leaking wells — Entry upon land to plug, replug or repair — Emergencies. If, after notice and hearing, the Department

finds that a well drilled for the exploration, development, storage or production of oil or gas, or as injection, salt water disposal, salt water source, observation, and geological or structure test has been abandoned and is leaking salt water, oil, gas or other deleterious substances into any fresh water formation or onto the surface of the land in the vicinity of the well, and if after 30 days from the date of the finding by the Department such well has not been properly plugged, re-plugged or repaired to remedy such situation, then any person duly authorized by the Department may enter upon the land on which the well is located and plug, replug, or repair the well as may be reasonably required to remedy the condition.

An emergency exists where the Department determines that irreparable injury will result unless immediate action is taken. In that case, the entry upon the land may be authorized by the Department without notice or hearing for the purpose of taking such temporary remedial action as the Department may consider to be necessary to prevent or minimize such injury pending the giving of notice and hearing.

Sec. 19.2. Supplemental remedy. Nothing in this Act shall relieve any person or persons otherwise legally responsible from any obligation to plug, replug or repair a well and shall not limit the authority of the Department to require the proper plugging, replugging or repair of a well, but is intended as a supplemental remedy when any person or persons obligated to do so fail to do so.

Sec. 19.3. Liability for damages — Responsibility for future remedial work. Any person who enters upon the land on which the well is located to plug, replug or repair the well, or supports or contributes to such action in accordance with the order of the Department, shall not be liable for any damages resulting from operations reasonably necessary or proper to plug, replug or repair the

well, except damages to growing crops and improvements.

That person shall not be held to have assumed responsibility for future remedial work on the well or be liable in damages or otherwise for conditions subsequently arising from or in connection with the well.

Sec. 19.4. No admission of liability or discharge of action. The fact that any person has initiated or supported a proceeding before the Department or has remedied or attempted to remedy the condition of any well under the authority of this Act shall not be construed as an admission of liability or received in evidence against such person in any action or proceeding where responsibility for or damages from surface or subsurface pollution, or injury to any fresh water or oil or gas bearing formation is an issue, nor shall such fact be construed as releasing or discharging any action, cause of action, or claim against such person in favor of any third person for damages to property resulting from surface or subsurface pollution, or injury to any fresh water or oil or gas bearing formation, to the extent that any such action, cause of action or claim may have existed prior to the initiation or support of such proceeding or such remedying or attempted remedying of the condition of such well.

Sec. 19.5. Right of action for costs involved—Lien. Any person who had no obligation to plug, replug or repair the well, but who does so under the provisions of this Act, shall have a cause of action against the person or persons who by law were obligated to properly plug, replug or repair the well for the reasonable cost and expense incurred in plugging, replugging or repairing the well, and shall have a lien enforceable upon the interest of such obligated person or persons in and to the oil and gas rights in the land and equipment located thereon to the extent of such reasonable cost and expense.

The lien created by this Section shall not, however, affect the rights of any purchaser, mortgagee, judgment creditor or other lien holder arising prior to the filing of notice of such lien in the office of the recorder of deeds of the county in which the real estate on which the well is located is situated, or in the office of the registrar of titles of such county if that real estate is registered under "An Act concerning land titles" approved May 1, 1897, as amended; which notice shall definitely describe the real estate and property involved, the nature and extent of the lien claimed, and the facts upon which the same is based.

Sec. 20. No oil or gas well shall be drilled hereafter nearer than 250 feet to any opening to a working coal mine used as a means of ingress or egress for the persons employed therein or which is used as an air shaft, except by mutual agreement between the person owning or operating the mine and the oil or gas operator.

Sec. 21.1. (a) The Mining Board is authorized to issue permits for the drilling of wells and to regulate the spacing of wells for oil and gas purposes. For the prevention of waste, to protect and enforce the correlative rights of owners in the pool, and to prevent the drilling of unnecessary wells, the Mining Board shall, upon application of any interested person and after notice and hearing, establish a drilling unit or units for the production of oil and gas or either of them for each pool, provided that no spacing regulation shall be adopted nor drilling unit established which requires the allocation of more than 40 acres of surface area nor less than 10 acres of surface area to an individual well for production of oil from a pool the top of which lies less than 4,000 feet beneath the surface (as determined by the original or discovery well in the pool), provided, however that the Mining Board may permit the allocation of greater acreage to an individual well than that above specified, and provided fur-

ther that the spacing of wells in any pool the top of which lies less than 4,000 feet beneath the surface (as determined by the original or discovery well in the pool) shall not include the fixing of a pattern except with respect to the 2 nearest external boundary lines of each drilling unit, and provided further that no acreage allocation shall be required for input or injection wells nor for producing wells lying within a secondary recovery unit as now or hereafter established.

(b) Drilling units shall be of approximately uniform size and shape for each entire pool, except that where circumstances reasonably require, the Mining Board may grant exceptions to the size or shape of any drilling unit or units. Each order establishing drilling units shall specify the size and shape of the unit, which shall be such as will result in the efficient and economical development of the pool as a whole, and subject to the provisions of subsection (a) hereof the size of no drilling unit shall be smaller than the maximum area that can be efficiently and economically drained by one well. Each order establishing drilling units for a pool shall cover all lands determined or believed to be underlaid by such pool, and may be modified by the Mining Board from time to time to include additional lands determined to be underlaid by such pool. Each order establishing drilling units may be modified by the Mining Board to change the size thereof, or to permit the drilling of additional wells.

(c) Each order establishing drilling units shall prohibit the drilling of more than one well on any drilling unit for the production of oil or gas from the particular pool with respect to which the drilling unit is established and subject to the provisions of subsection (a) hereof shall specify the location for the drilling of such well thereon, in accordance with a reasonably uniform spacing pattern, with necessary exceptions for wells drilled or drilling at the time of the appli-

cation. If the Mining Board finds, after notice and hearing, that surface conditions would substantially add to the burden or hazard of drilling such well at the specified location, or for some other reason it would be inequitable or unreasonable to require a well to be drilled at the specified location, the Mining Board may issue an order permitting the well to be drilled at a location other than that specified in the order establishing drilling units.

(d) After the date of the notice for a hearing called to establish drilling units, no additional well shall be commenced for production from the pool until the order establishing drilling units has been issued, unless the commencement of the well is authorized by order of the Mining Board.

(e) After an order establishing a drilling unit or units has been issued by the Mining Board, the commencement of drilling of any well or wells into the pool with regard to which such unit was established for the purpose of producing oil or gas therefrom, at a location other than that authorized by the order, or by order granting exception to the original spacing order, is hereby prohibited. The operation of any well drilled in violation of an order establishing drilling units is hereby prohibited.

Sec. 22.2. (a) When 2 or more separately owned tracts of land are embraced within an established drilling unit, or when there are separately owned interests in all or a part of such units, the owners of all oil and gas interests therein may validly agree to integrate their interests and to develop their lands as a drilling unit. Where, however, such owners have not agreed to integrate their interests and where no action has been commenced seeking permission to drill pursuant to the provisions of "An Act in relation to oil and gas interests in land", approved July 1, 1939, as heretofore or hereafter amended, the Mining Board shall, for the prevention of waste or to

avoid the drilling of unnecessary wells, require such owners to do so and to develop their lands as a drilling unit, before issuing a permit for the drilling thereon. The Mining Board, as a part of the order establishing a drilling unit or units, may prescribe the terms and conditions upon which the royalty interests in the unit or units shall, in the absence of voluntary agreement, be determined to be integrated without the necessity of a subsequent separate order integrating the royalty interests. Each such integration order shall be upon terms and conditions that are just and reasonable.

(b) All orders requiring such integration shall be made after notice and hearing and shall be upon terms and conditions that are just and reasonable and will afford to the owners of all oil and gas interests in each tract in the drilling unit the opportunity to recover or receive their just and equitable share of oil or gas from the drilling unit without unreasonable expense and will prevent or minimize reasonably avoidable drainage from each integrated drilling unit which is not equalized by counter drainage, but the Mining Board may not limit the production from any well under this provision.

(c) All operations, including, but not limited to, the commencement, drilling, or operation of a well upon any portion of a drilling unit shall be deemed for all purposes the conduct of such operations upon each separately owned tract in the drilling unit by the several owners thereof. That portion of the production allocated to a separate owned tract included in a drilling unit shall, when produced, be deemed, for all purposes, to have been actually produced from such tract by a well drilled thereon.

(d) Each such integration order shall authorize the drilling, equipping, and operation, or operation, of a well on the drilling unit; provide who may drill and operate the well; prescribe the

time and manner in which all the owners in the drilling unit may elect to participate therein; and make provision for the payment by all those who elect to participate therein of the reasonable actual cost thereof, plus a reasonable charge for supervision and interest. If requested, each such integration order shall further provide for one or more just and equitable alternatives whereby an owner who does not elect to participate in the risk and cost of the drilling and operation, or operation, of a well may elect to surrender his leasehold interest to the participating owners on some reasonable basis and for a reasonable consideration which, if not agreed upon, shall be determined by the Mining Board, or may elect to participate in the drilling and operation, or operation, of the well, on a limited or carried basis upon terms and conditions by the Mining Board to be just and reasonable. If one or more of the owners shall drill, equip, and operate, or operate, or pay the costs of drilling, equipping, and operating, or operating, a well for the benefit of another person as provided for in an order of integration, then such owner or owners shall be entitled to the share of production from the drilling unit accruing to the interest of such other person, exclusive of a royalty not to exceed $\frac{1}{8}$ of the production, until the market value of such other person's share of the production, exclusive of such royalty, equals (1) 100% of such other person's share of the costs and expenses of all surface equipment and 100% of each such person's share of the cost of operating the well commencing with the first production, and 150% or (2) 200% of such person's share of the actual costs and expenses of drilling, testing and completing said well. In instances where a well is completed prior to the integration of interests in a drilling unit the sharing of production shall be from the effective date of the integration except that in calculating costs credit shall be given for the value of such owner's share of any prior production from the well.

Sec. 23.1. The owner or owners of any tract of land which is productive or capable of being productive of oil or gas or any owner or operator of an oil and gas leasehold on which productive wells are situated, under a lease authorizing the lessee or his assigns to explore for and remove oil and gas, from any sand, strata, or formation, shall be permitted, in the interest of oil and gas conservation, to introduce and inject air, gas, water, or other fluid under pressure upon such sand, strata or formation, for the purpose of recovering the oil and gas contained therein; provided, that the owner or operator of a well into which water or other fluid is to be introduced into the sand, strata, or formation, shall make a written application to the Mining Board for authority so to do, and provided that written approval has been granted him by the Mining Board; and provided further that the operation shall be done under the rules and regulations of the Mining Board; and further provided, that such introduction or injection of air, gas, water or other liquid under pressure upon or into such sand, strata or formation shall not be deemed to be an unlawful act.

Sec. 23.2. (a) When two or more separately owned tracts of land are embraced within a pool or a portion of a pool suitable for secondary recovery methods, the owners thereof may validly agree to integrate their interest therein and to develop their land as a unit, and production from any tract in such established unit shall be regarded as production from all presently owned tracts or interests within such units.

(b) Agreements made in the interest of conservation of oil or gas, or both, or the prevention of waste, between and among owners or operators, or both, owning separate holdings in the same oil or gas pool, or in any area that appears from geological or other data to be underlain by a common accumulation of oil or gas, or both, or between and among such owners or operators, or both, and roy-

alty owners therein, of a pool or area, or any part thereof, as a unit for establishing and carrying out a plan for the cooperative development and operation thereof, when such agreements are approved by the Mining Board, are hereby authorized and shall not be held or construed to violate any of the statutes of this State relating to trusts, monopolies or contracts and combinations in restraint of trade.

Sec. 25. No power herein granted to prevent waste shall be interpreted or construed as authorizing limitation of production of any well, wells, lease, leases, pool, field or properties to prevent or control economic waste or limit production to market demand.

Exploration and discovery of new and additional pools, fields and producing horizons are vital and the effect and administration of this Act shall be in accordance therewith and not contrary thereto. Any Rule, Regulation or Order issued under the general powers of this Act in violation of the provisions of this Section shall be void and of no effect.

Sec. 26. (a) Any person who violates any provision of this Act or who, after notice of any valid rule, regulation or order of the Mining Board made hereunder, violates, repeats or continues the violation thereof, shall be subject to a fine of not to exceed \$100 a day for each and every act of violation.

(b) Any person willfully aiding or abetting any other person in the violation of any provision of this Act, or any rule, regulation and order made hereunder, shall be subject to the same penalties as are prescribed herein for the violation by such other person.

Sec. 27. "An Act in relation to sinking, filling and operating of wells for oil, gas, water or other purposes," approved May 16, 1905, as amended, is repealed.

Sec. 28. If any section, paragraph, sentence or

phrase of this Act shall be declared unconstitutional, or void for any reason by any court of final jurisdiction, such fact shall not in any manner invalidate or affect any other section, paragraph, sentence or phrase of this Act, but the same shall continue in full force and effect.

Effective July 12, 1951.

An Act concerning the production of oil and gas.

Whereas, in order to promote the development, production and utilization of the natural resources of oil and gas within the State of Illinois, it is in the public interest to encourage, authorize, and provide for the maximum recovery of oil and gas in the State, by the use and employment of fluid injection into productive oil and gas formations, including the use of secondary recovery methods, and also including cycling and recycling of gas, pressure maintenance, repressuring, and injection of air, gas, water and other fluids into productive horizons or strata, and to declare the law of the State in regard thereto, therefore:

**BE IT ENACTED BY THE PEOPLE OF
THE STATE OF ILLINOIS, REPRESENTED
IN THE GENERAL ASSEMBLY:**

Section 1. It is hereby declared to be the law of the State of Illinois that the grant in an oil and gas lease or contract to a lessee or operator of the right or power, in substance, to explore for and remove all oil and gas from any lands in the State of Illinois, in the absence of an express provision to the contrary therein contained, includes the right of the lessee, or his heirs or assigns, to do what a prudent operator using reasonable diligence, would do having in mind the best interests of the lessor and lessee, in producing and removing oil and gas, and includes the use of practices and methods employed by the oil and gas industry, including the injection of

air, gas, water and other fluids into the productive formations or strata, and cycling and recycling of gas, when done upon the authority of and under the Rules, Regulations and Orders of the Department of Mines and Minerals of the State of Illinois, as heretofore created or other Department or Commission hereafter created and authorized by law hereafter to administer the laws relating to the production of oil or gas, or both, in the State of Illinois.

Effective July 11, 1951.

An Act to amend Section 221 of Division I of “An Act to revise the law in relation to criminal jurisprudence” approved March 27, 1874, as amended.

BE IT ENACTED BY THE PEOPLE OF THE STATE OF ILLINOIS, REPRESENTED IN THE GENERAL ASSEMBLY:

Section 1. Section 221 of Division I of “An Act to revise the law in relation to criminal jurisprudence,” approved March 27, 1874, as amended, is amended to read as follows:

DIVISION I.

Sec. 221. It is a public nuisance:

* * *

10. To permit any well drilled for oil, gas, salt water disposal or any other purpose in connection with the production of oil and gas, to remain unplugged, after such well is no longer used for the purpose for which it was drilled.

11. To construct or operate any salt water pit or oil field refuse pit, commonly called a “burn out pit”, so that salt water, brine or oil field refuse or other waste liquids may escape therefrom in any manner except by the evaporation of such salt water or brine or by the burning of such oil field waste or refuse.

12. To permit concrete bases, discarded machinery and materials to remain around any oil

or gas well, or to fail to fill any holes, cellars, slush pits and other excavations made in connection with any such well or to restore the surface of the lands surrounding any such well to its condition before the drilling of any such well, upon abandonment of any such oil or gas well.

13. To permit any salt water, oil, gas, or other wastes from any well drilled for oil, gas, or exploratory purposes to escape to the surface, or into a mine or coal seam, or into any underground fresh water supply, or from one underground stratum to another. Effective July 23, 1943.

RULES AND REGULATIONS
of the
DEPARTMENT OF MINES AND MINERALS
for the
OIL AND GAS DIVISION

(Approved and adopted November 7, 1951, and amended February 1, 1960, April 1, 1964, and December 23, 1966.)

In order to properly administer and enforce the provisions of an Act of the General Assembly of the State of Illinois entitled

“An Act in Relation to Oil, Gas, Coal and other Surface and Underground Resources, and to Repeal an Act Herein Named” filed July 29, 1941, as amended by an Act approved July 24, 1945 and as amended by an Act approved July 12, 1951, and as further amended by an Act approved July 22, 1959, as amended by an Act approved August 10, 1964, as amended by an Act approved April 20, 1967 and as further amended by an Act approved May 1, 1967.”

and to prevent waste as defined in said Act as amended, to promote the maximum ultimate recovery of oil and gas from the various pools, fields and reservoirs in the State of Illinois and to protect the vested or co-equal rights of the owners of oil, gas, coal and other surface and underground resources, the following Rules and Regulations are hereby adopted and promulgated by the Department of Mines and Minerals of the State of Illinois.

RULE 1

GENERAL PROVISIONS

(1) DEFINITIONS

“THE ACT”—When used herein shall refer to and mean the provisions of the aforementioned Act of the General Assembly of the State of Illinois, as amended.

“CEMENT”—As used herein shall mean Portland or “neat” cement.

“CONVERT”—Shall mean to change an oil or gas producing well, or a temporarily abandoned well to a well for injection of gas, air, water or other liquids, or any combination thereof, or to change an injection well to an oil or gas producing well.

“MINING BOARD REPRESENTATIVE”—When used herein shall mean any employee of the Department of Mines and Minerals of the State of Illinois, who is qualified by training and experience, and is authorized by the Director in writing, to perform in his stead the powers and duties set forth in the aforementioned Act, which do not require the exercise of administrative discretion or that may be prescribed by the Rules, Regulations or Orders of the Mining Board adopted or promulgated pursuant thereto.

“DEVELOPMENT”—Shall mean any work or operation on or appurtenant to the oil and gas leasehold premises, which actively looks toward the drilling of wells for oil or gas, or the discovery of or bringing in production.

“LEASE TANK”—Shall mean the tank or other receptacle into which oil is produced either directly from a well or from a well

through a gas separator, gun barrel or similar equipment.

“LOG”—Shall mean the systematic detailed written record correctly describing the strata and formations progressively encountered in the drilling of a well for oil or gas, including water, oil and gas formations or other underground resources, with such additional data as is usually recorded in the normal procedure of drilling, including electric surveying or logging.

“MUD-LADEN FLUID”—Shall mean any approved mixture of water and clay or other suitable material as the term is commonly used in the industry which will effectively seal the formation to which it is applied.

“PLUG OR PLUGGING”—Shall mean the abandoning of a producing, nonproductive or nonoperative well; or the stopping of the flow of oil, gas, or water in a well.

“OIL STRING”—Shall mean that string of casing placed in a well and used for the purpose of segregating the horizon or formation from which production is obtained and affording a means of bringing the oil or gas from such productive horizon or formation to the surface.

“REPRESSURE”—Shall mean to increase the reservoir pressure by the introduction of gas, air or water or other fluid into the reservoir.

“ROTARY DRILLING”—Shall mean the hydraulic process of drilling a well for oil or gas as such method is commonly used in the industry.

“SHOOTING”—Shall mean the exploding of nitroglycerin or other high explosives in a well hole for the purpose of discovering or increasing the production of oil or gas therefrom or in perforating or parting the pipe therein.

“SPECIAL MUD MATERIALS”—Shall mean weighting material such as barium sulphate,

Bentonitic clays, salt-resistant clays, filtration reduction agents and fibrous materials.

“UNDEVELOPED LIMITS OF A MINE”—The undeveloped limits of a mine are that portion of a mine where the entries have not been driven to the boundaries of the mine property.

“VACUUM”—Shall mean pressure which is reduced below the pressure of the atmosphere.

“WASTE LIQUIDS”—Shall mean oil field brines, cut oil, bottom sediments, concentrated sulphur water and acid waters.

“WELL”—Shall mean any well drilled for the purpose of discovering oil or gas, or any other purpose in connection with the exploration and production of the same including gas, air and water input wells.

“DIRECTIONAL DRILLING”—Shall mean the controlled directional drilling when the bottom of the well bore is directed away from the vertical position.

“DRILLING UNIT”—Shall mean the surface area allocated by an order or regulation of the Mining Board to the drilling of a single well for the production of oil or gas from an individual pool.

“PATTERN FLOOD”—Shall mean a definite geometric arrangement of the input wells and the producing oil wells with a constant distance between the input and oil wells for any definite pattern.

“FRESH WATER”—For purposes of this Act, fresh water shall mean water having five (5) parts per one thousand (1,000) total dissolved solids or less.

“SECONDARY RECOVERY”—Shall mean the recovery obtained by any method whereby oil and gas is produced by augmenting the natural reservoir energy.

(2) PREVENTION OF WASTE

All owners, managers, contractors, drillers, service companies, pipe pulling and salvage contractors or other persons drilling, casing or plugging oil or gas wells in this State shall at all times conduct their operations, and drill, case, plug and abandon the same in the manner set forth by the Act or as hereinafter provided, so as to prevent waste or the escape of oil or gas out of one stratum to another, prevent the intrusion of water into oil, gas, or coal strata, and prevent the pollution of fresh water supplies by oil, gas, salt water, or sulphur-bearing water.

(3) JURISDICTION

As provided in the Act, the Mining Board shall have jurisdiction and authority over all persons and property necessary to enforce effectively the provisions of the Act.

(4) ENFORCEMENT OF ACT

The Mining Board of the Department of Mines and Minerals of the State of Illinois, being charged with the duty of enforcing the provisions of the Act and all valid Rules, Regulations and Orders adopted and promulgated pursuant thereto, may enforce or cause same to be enforced by action initiated by the Oil and Gas Division of the Department of Mines and Minerals.

(5) DELEGATION OF AUTHORITY

The Mining Board may authorize in writing any employee of the Department (herein designated Mining Board Representative) qualified by training and experience, to perform in his stead the powers and duties set forth in the Act, which do not require the exercise of administrative discretion, or that may be prescribed by the Rules, Regulations or Orders of the Mining Board adopted and promulgated pursuant thereto.

(6) RIGHT OF INSPECTION

Any authorized Mining Board Representative shall have the right at all times to go upon and inspect any oil and gas leasehold premises or property where drilling operations are or have been conducted, or from which oil or gas is being produced, for the purpose of making any investigation or tests to ascertain whether the provisions of the Act or the Rules, Regulations or Orders of the Mining Board are being complied with, and shall make due and timely report of any violation thereof.

(7) RIGHT OF ACCESS

Any authorized Mining Board Representative shall have access to all well records wherever located. All persons having the custody or jurisdiction of the same shall permit the authorized Mining Board Representative to come upon any leasehold or other premises or property operated or controlled by them and have access at all times to, and inspect records pertaining to the drilling, completion, operation or plugging of any well drilled in this State, provided always that any information so obtained shall be considered confidential, and reported to, and only to, the Oil and Gas Division in the Department of Mines and Minerals; except that, any information so obtained may be presented as evidence in any proceeding concerned with any alleged violation of the Act or any valid Rule, Regulation or Order adopted or promulgated pursuant thereto.

(8) SWORN STATEMENTS

The Mining Board shall require sworn statements or affidavits when it is deemed to be expedient or necessary to effectuate the provisions of the Act. When such sworn statements or affidavits are required the same shall be sworn to before an officer or person authorized to administer oaths in the state where oath is taken.

(9) ADDITIONAL REPORTS

When requested in writing by the Mining Board, any oil well servicing company or other person or persons in the control or custody thereof, shall furnish and file with said Division any reports and records showing gun perforation, squeeze, cementing, shooting or chemical treatment of any well or wells, which information shall also be considered as confidential, except when presented as legal evidence in any court proceedings concerned with any alleged violation of the Act or any valid Rule, Regulation or Order adopted or promulgated pursuant thereto.

(10) WHEN RULES AND REGULATIONS BECOME EFFECTIVE

All rules and regulations herein shall be in full force and effect when adopted and promulgated by the Mining Board, after notice and hearing as provided by the aforementioned Act, except as the same may hereafter be amended, modified, altered or enlarged in the same manner by the Mining Board.

(11) NOTICE OF RULES AND REGULATIONS

When the Mining Board issues any order under its Rules or Regulations, or under the Act, and mails a copy of the same by registered mail to the owner or manager concerned, with return receipt requested, it shall constitute legal notice of any such order of the Mining Board.

(12) FORMS

The Oil and Gas Division of the Department of Mines and Minerals shall prescribe and prepare all forms required under the Rules and Regulations herein and, when requested, shall furnish requisite copies of either thereof to any interested person requiring use of the same.

(13) HEARINGS—NOTICE

The Mining Board shall have authority to call public hearings or private hearings involving interested parties concerning matters pertaining to oil and gas activities.

(A) PUBLIC HEARINGS

A notice of public hearing as provided by the aforementioned Act shall be given by publishing one (1) notice of the time and place thereof in at least five (5) newspapers of general circulation within the main oil-producing counties of Illinois, and such notice shall be published at least ten (10) days prior to the date of such hearing.

(B) PUBLISHER'S CERTIFICATE

Whenever notice of a hearing or Mining Board action is required to be published in a newspaper of general circulation, each publisher of the newspaper publishing said notice shall file with the Mining Board a copy of the published notice with an affidavit setting forth the date such notice was published in said newspaper.

(C) OTHER HEARINGS

A notice of hearings other than public hearings may be given by mailing a notice of the time and place of such hearing, by registered mail or certified mail, with a return receipt requested, to the last known address of all persons concerned in the matter to be heard. Such notice shall be mailed at least ten (10) days prior to the date of the hearing.

In addition to such notice, the Mining Board may publish a notice of such hearing, in one (1) issue, of one (1) or more newspapers in or near the vicinity of the area involved in the matter to be heard.

RULE II

PERMITS

(1) GENERAL PROVISIONS

The drilling, deepening or conversion of a well is prohibited until permit therefor, as required by the Act, has been issued.

All applications for permits shall conform or be subject to the following requirements:

(A) APPLICATION TO BE FILED

All applications for permits shall be signed by the owner or manager or by a person authorized to sign for such owner or manager or by a member of an established firm, partnership, or association. Any person may sign for a corporation who is duly authorized so to do. Persons so authorized shall either sign personally or as Attorney in fact. If such person signs as an Attorney in fact, then a certified copy of the power of attorney shall accompany the application, unless one has been previously filed with the Mining Board.

If the application is signed by the manager, he shall furnish the Mining Board with a signed statement accompanying the application that he is the managing operator of the well and will be solely responsible for any and all violations of the Illinois Statutes and the Mining Board Rules and Regulations in the drilling, testing, completion, operation, and plugging of the well. The manager's responsibility for violations ceases if a new manager is appointed and furnishes the Mining Board with a signed managing operator's statement, as above provided.

(B) COPY OF EVIDENCE OF OWNERSHIP TO BE ATTACHED

No person shall be issued a permit for any purpose unless he has custody and control of the

land involved, either by being the fee owner or by having a valid lease or agreement with the owners of the right to drill for oil and gas on the lands in question, proof of which shall be submitted by the applicant, by either attaching to the application certified copies of the original instruments or photostatic copies thereof, or, at the election of the applicant, by submitting a form to be furnished by the Mining Board, setting forth all such pertinent facts, which shall be subscribed and sworn to by the applicant, who shall certify the facts contained therein are true.

(C) WHEN PERMIT TO BE ISSUED

No permit shall be issued by the Mining Board until the applicant has fully met all requirements and the application is approved by the Department.

(D) PERMIT ISSUED TO OWNER OR MANAGER

All permits shall be issued by the Mining Board in the name or names of the person, firm or corporation for whom the application is made and who furnishes the bond.

(E) PERMIT POSTED AT WELL SITE

When fee permits are required no person shall commence drilling operations until the permit has been issued by the Mining Board and the original, a duplicate or a photostatic copy thereof posted at the well site.

The permit shall remain posted at the well site until the drilling of the well has been completed.

(F) AUTHORITY TO DENY PERMIT

The Mining Board shall have authority to deny a permit to any person, when such person is in violation of the aforementioned Act or any valid and lawful Rule, Regulation or Order adopted or promulgated by the Mining Board.

(G) PERMITS NOT TRANSFERABLE

Permits issued under the Act are not transferable.

(2) APPLICATION FOR PERMIT TO DRILL, DEEPEN OR CONVERT WELL

(A) REQUIREMENTS

Before any person shall spud in or commence the actual drilling of any well for the discovery of oil or gas or commence operations to deepen any well to a different geological formation, or commence any operations on any well which requires the obtaining of a permit under these rules, such person shall file with the Oil and Gas Division of the Department, an application for a permit on such form as the Mining Board shall require.

(B) DRILL OUT OR DEEPEN PLUGGED WELL

In order to drill out or deepen a previously plugged well, the same requirements shall apply as stated in Rule II (2) (A) except that no permit shall be issued to drill out or deepen a previously plugged well which is located less than 330 feet from the two nearest external boundary lines of the drilling unit. Exceptions shall be granted when the plugged well adjoins or is on that part of a leasehold on which secondary recovery operations are now or hereafter established.

(C) CONTENTS OF APPLICATION

The application for a permit shall include the following information, viz:

The name of the leasehold and exact location, by plat, of the well proposed to be drilled, deepened or converted and the approximate location of producing wells previously drilled to the same

formation on said leasehold, together with the name and approximate location of the offset well or wells on adjoining leaseholds, and a statement as to whether or not such proposed well location is within the limits of any incorporated city, town, or village.

Applications for permits shall be certified to by a registered Illinois land surveyor or registered professional engineer who works for the extraction of minerals from the earth.

The application shall include the names and addresses of lessor, lessee, owner, or manager and the person responsible for the conduct of operations, and the name of the contractor. The application shall also indicate the type of drilling tools or equipment to be used and the lowest proposed depth and geological formation to be tested or penetrated.

When the applicant is not the individual owner or manager, if the applicant is a partnership, firm, association, or corporation, and if a corporation, whether its charter authorizes oil operations. If an assumed business name is used, whether it is registered as provided by the Illinois Statutes, giving county of registration.

(D) FEE

The applicant shall remit with the application to either drill, or deepen a well to a different geological formation, or convert a well, a fee of forty dollars (\$40.00) by check, draft, Post Office or Express Money Order payable to the State of Illinois and shall give bond as hereinafter provided.

(E) EXPIRATION OF PERMIT

All permits shall be issued to cover a period of one (1) year from the date of issue and shall expire at that time unless acted upon prior there-

to by the commencement of operations authorized by the permit, and such operations shall be continued with due diligence until the authorized work is completed; provided always that the Mining Board shall have the authority to revoke a permit when the Mining Board finds that any fraud, deceit, or misrepresentation was made to obtain said permit.

Each such permit shall expire before the period of one (1) year from date of issue when and as the permittee has completed the work specified in such original permit.

(F) CHANGE OF LOCATION

If a permittee requests a change of location for the drilling of the well before its completion and such change is upon the same lease and is not over thirteen hundred and twenty (1320) feet from the original location and such proposed change meets with the approval of the Mining Board, the permittee shall return the original permit together with an amended application for such change of location.

(G) DIRECTIONAL DRILLING

In controlled directional drilling when the intent is to direct the bottom of the well bore away from the vertical position, in addition to an application for a well permit the applicant shall furnish the Mining Board with the proposed direction of deviation and proposed horizontal distance between the bottom of the well bore and the surface location. If a permit is issued by the Mining Board, the permittee shall file with the Mining Board, within thirty (30) days after the completion of the well, a certified accurate and complete copy of the directional survey of said well. No person, company, or organization shall direct, or assist in directing, any well bore away

from the vertical position until the Mining Board has issued a permit for such directional drilling.

(3) APPLICATION FOR PERMIT FOR TEST HOLE OR WATER SUPPLY WELL.

As provided by the Act, the Mining Board shall require any person proposing to drill a geological or structural test hole or water supply well in connection with any operation for the exploration or production of oil or gas, to secure a permit therefor. In addition to complying with all provisions enumerated herein, the applicant shall give bond as further required by the Act, and shall also indicate the type of drilling tools to be used and the lowest proposed depth and geological formations to be tested or penetrated. No permit fee is required for these types of test holes.

Mine or quarry drill or blast holes, seismograph test holes or holes drilled to explore strippable coal are exempt from the provisions of the Act.

(4) PERMITS FOR SALT WATER DISPOSAL OR FOR GAS, AIR, WATER, OR OTHER LIQUID INPUT WELLS

In order to prevent waste as defined in the Act, the Mining Board shall require any person desiring to convert any well now drilled, or any person desiring to drill or deepen a well for the purpose of injecting gas, air, water, or other liquid into any underground formation or strata therefore.

(A) REQUIREMENTS FOR PERMIT

In addition to complying with all provisions enumerated and required in Section (1) "GENERAL PROVISIONS" above, the applicant for a permit for a salt water disposal well

or for a gas, air, water, or other liquid input well shall provide a bond as required by the Act.

In the application for a permit for such input well, the applicant shall indicate the location of all producing oil and gas wells, drilling wells or abandoned holes, within one-half ($\frac{1}{2}$) mile radius and all mines or mined out areas or the undeveloped limits of a mine within a like distance of such proposed well, together with the names and addresses of their owners, the name and description of the substance to be injected, and the depths and formation where the proposed injection will be made. The applicant shall also submit the log of such input well if previously drilled, and description and character of casing and cementing operations behind the same, and size of hole drilled.

(B) NOTICE TO OTHER OWNERS OR MANAGERS

Every person desiring to inject any such substance into an underground formation or stratum, shall notify the owners or managers of every oil or gas well, including those drilling or temporarily abandoned, and the owner of every mine, including the mined-out and undeveloped limits of any mine, within a one-half ($\frac{1}{2}$) mile radius, by registered mail on or before the day the application is filed with the Mining Board, and proof of such notice shall accompany said application. The name of the formation shall be included in the notice, and the approximate depth of the top and bottom of the formation to be injected is to be given. On receipt of such application and proof, the Mining Board shall hold the application for ten (10) days pending the filing of objections. In event objection is made within such time or the Mining Board deems a hearing should be had, notice shall be given to each objector and the applicant of the time and place designated by the Mining Board for such hearing.

(C) AUTHORITY TO DENY PERMIT

The Mining Board shall have authority to deny a permit when, in its judgment, there is danger of waste or when it believes the proposed protective work is not sufficient to confine the substance injected to the intended strata.

(D) AUTHORITY TO SUSPEND OPERATIONS

At any time it seems apparent that the injected substance is not being confined to the intended stratum and is migrating to other stratum or to the surface, the Mining Board shall have authority to suspend operations and after notice and hearing to prohibit the further use of any such well for said purposes.

(E) FEE

The applicant shall remit with the application to convert, drill or deepen a well for the purpose of injecting any gas, air, water, or other liquids, or any combination thereof, into any underground formation or strata a fee of forty dollars (\$40.00) by check, draft, Post Office or Express Money Order payable to the State of Illinois.

(5) PERMIT REQUIREMENTS IN MINE AREAS

(A) FOR WELL PENETRATING MINE

When the location of a well to be drilled for oil or gas, or any purpose in connection therewith, will penetrate an active mine or through the mined out and inaccessible or sealed off area of an active mine, or shall penetrate the same in a temporarily abandoned mine, or the undeveloped limits of any such mine property, a drilling permit shall not be issued by the Mining Board until an agreement shall be reached between the owner of the proposed well and the mine owner.

or in the event of failure to reach such an agreement a permit will not be issued until a hearing is held as hereinafter provided.

(1) AGREEMENT WITH MINE OWNER

A copy of such agreement, jointly signed by the applicant for a permit and the mine owner agreeing to the drilling of the well and the proposed location, shall be filed with the application and accompanied by a map or sketch showing the well location, its relation to shafts and mine buildings, and to each coal seam or seams and mine workings underlying applicant's lease, or a statement from the mine owner that the location is over the undeveloped limits of the mine.

(2) REQUIREMENTS IN ABSENCE OF AGREEMENT

In the absence of such an agreement or statement, the applicant shall file with application for permit a map or sketch showing the well location, its relation to shafts and mine buildings, if any, as well as its relation to the mine workings underlying applicant's lease, with a sworn statement that a true and exact copy of application and accompanying exhibits was mailed postage prepaid to the coal company or its authorized agent in Illinois, by United States registered mail.

If within ten (10) days from the receipt of the application for permit by the Mining Board no written objections are filed, the Mining Board shall issue or deny the permit.

Upon the filing of objections to the issuance of the permit, the Mining Board shall promptly set the matter for hearing and decision.

(B) REQUIREMENTS IN INACTIVE MINING AREAS

In inactive mining areas where the existence of workable coal is known to be present and the

ownership of such workable coal has been recorded in the county records, the applicant for a permit to drill a well for oil and gas or to drill any well in connection with the production of oil and gas shall notify the owner of said workable coal by registered mail with return receipt requested. The notice shall show the exact location of the proposed test and the approximate depth of the formation to be tested. The Mining Board shall be furnished with a copy of the notice attached to the application for permit, with the return receipt from the owner of the workable coal or, in lieu thereof, a sworn statement that the applicant has the return receipt in his possession, giving the names and addresses of the owners of the coal rights and date of delivery of the notice.

(1) NOTICE TO MINE OWNER

No permit shall be issued to the applicant until ten (10) days have elapsed following the receipt of the registered notice by the owner of the workable coal.

(2) MAPS AVAILABLE AT WELL SITE

During the drilling of a well, for which a permit has been issued, the permittee shall keep at the well site for the use of the Mining Board and its representatives an exact copy of the maps and sketches which accompanied his application for such permit.

RULE III

BONDS

(1) WHEN BONDS REQUIRED—AMOUNT

As provided by the aforementioned Act, the Mining Board shall require every person previous to the commencement of drilling for oil, gas or any other purpose in connection therewith, and every person who has created or acquired any well drilled for these purposes which has not been plugged and abandoned in accordance with the Laws, Rules, Regulations or Orders of the Mining Board, to execute and file with the Mining Board a bond of one thousand dollars (\$1000) for each of such wells, or in lieu thereof a blanket bond in the sum of twenty-five hundred dollars (\$2500) for all wells to provide for the compliance with the provisions of the aforementioned Act and all amendments thereof and to the Rules, Regulations and Orders of the Mining Board issued under the provisions of said Act and all amendments thereto.

(2) KIND OF BOND—EXECUTION

(A) SURETY OR CASH BOND

When surety bonds are given they shall be executed by a responsible surety company authorized to do business in the State of Illinois.

Cash bonds on Departmental form are acceptable when accompanied by certified check payable to the State of Illinois.

(B) PERSONAL BOND

If any other type of bond is given, the principal and the surety shall be bona fide residents of Illinois. The Mining Board is authorized to scrutinize and investigate each bond before it shall be approved or rejected, and the Mining

Board shall have thirty (30) days to pass on the sufficiency of any such bond.

(C) EXECUTION OF BOND

The Mining Board shall not approve any bond until it is personally signed and acknowledged by both the principal and surety, or for them by an attorney in fact with a certified copy of the power of attorney attached thereto.

(3) BOND OF MANAGER

The person, firm or corporation in whose name the permit is issued shall be named as principal on the bond and shall execute same for such well, together with a written statement to the Mining Board that he is the manager and will be solely responsible for any and all violations of the aforementioned Act or any Rule, Regulation or Order of the Mining Board adopted or promulgated pursuant thereto, that may occur in the drilling, operation or plugging of the well. Where the holder of a fractional working interest in the leasehold is designated as manager, he may furnish a bond.

(4) BOND FORM—APPROVAL

All bonds shall be given on a form to be prescribed by the Mining Board and shall be subject to its approval. The Mining Board may at any time request a new bond or additional sureties when it has reason to believe the present bond is inadequate.

(5) SURETY MAY CANCEL BOND

On thirty (30) days' written notice given to the Mining Board, any surety may cancel a bond or remove himself as surety, and in event of such, the surety shall not be responsible under the terms of the bond beyond the thirty-(30) day period after notice is given to the Mining Board, but shall continue to be liable for all the liabilities accruing under the bond during the period of the time he, they or it was the surety thereon.

(A) REQUIREMENTS BEFORE BOND MAY BE CANCELED

The provisions of the laws of the State of Illinois require the plugging of the well, or wells, the filling of all excavations, the removal of all concrete bases, discarded machinery and material, and restoring the surface as nearly as possible to its former condition before such well, or wells, was drilled; and such bond shall be renewed and be continued in effect until the aforesaid conditions have been fully complied with.

(6) MINING BOARD MAY CANCEL BOND

A bond given in accordance with the provisions of this rule may, upon not less than thirty (30) days' written notice to the Mining Board, be cancelled by the Mining Board, upon satisfactory proof's being furnished to the Mining Board by the principal or surety that all conditions and provisions of said bond have been fully complied with. In the event of a default by the principal in any of the conditions of the bond, the surety or sureties on such bond shall be responsible for the immediate and full compliance with the conditions of said bond.

(7) CASING PULLER'S BOND

Any person engaged in pulling casing from abandoned oil or gas wells and wells used in connection therewith, who purchases such wells for the purpose of salvaging material from the same, shall file a bond with the Mining Board in the sum of one thousand dollars (\$1000) for an individual well or in lieu thereof a blanket bond in the sum of twenty-five hundred dollars (\$2500) to guarantee the ultimate plugging of these wells conformable with the Rules, Regulations and Orders of the Mining Board, including the restoration of the ground conditions, such as filling the pits, leveling the well site, and cutting off surface pipe below plow depth, if the ground conditions have not previously been rectified by the prior owner of such well or wells.

RULE IV

SPACING OF WELLS

(1) GENERAL SPACING RULES.

The following rules govern the spacing and location of wells and the integration of separate interests within a drilling unit. The Mining Board shall not issue a permit for the drilling or deepening of a well for the production of oil or gas within the State of Illinois without the compliance with such rules.

(A) WELLS DRILLED OR DEEPEMED.

(1) In the absence of a specific order of the Mining Board following notice and hearing as prescribed in Rule IV (1) (A) (6) which establishes drilling units and the well locations in pools (the depth to be determined by the original or discovery well in the pool), and subject to the exceptions under Rule IV (1) (E) hereof, the Mining Board hereby establishes individual well drilling units consisting of:

- (a) ten (10) acres of surface area lying within the quarter-quarter-quarter section of land (as established by the official United States Public Land Survey made pursuant to the provisions of an act of Congress), for wells drilled or deepened for the production of oil or gas from a sandstone formation in a pool, the top of which lies less than four thousand (4,000) feet beneath the surface; the location of the well shall be not less than three hundred thirty (330) feet from the nearest external boundary lines of the drilling unit; or

- (b) twenty (20) acres of surface area lying within the east-west or north-south one-half of a quarter-quarter section of land (as established by the official United States Public Land Survey made pursuant to the provisions of an act of Congress), for wells drilled or deepened for the production of oil or gas from a limestone formation in a pool, the top of which lies less than four thousand (4,000) feet beneath the surface; the location of the well shall be not less than three hundred thirty (330) feet from the nearest external boundary lines of the drilling unit; or
- (c) forty (40) acres of surface area lying within a quarter-quarter section of land (as established by the official United States Public Land Survey made pursuant to the provisions of an act of Congress), for wells drilled or deepened for the production of oil or gas from a pool, the top of which lies between four thousand (4,000) and six thousand (6,000) feet below the surface; the location of the well shall be not less than three hundred thirty (330) feet from the nearest external boundary lines of the drilling unit nor less than nine hundred (900) feet from the nearest location of a producing well or well being drilled or for which a permit has previously been issued for the drilling of a well to the same individual pool; or
- (d) one hundred sixty (160) acres of surface area lying within a quarter section of land (as established by the official United States Public Land Survey made pursuant to the provisions of an act of Congress), for wells drilled or deepened for the production of oil or gas from a pool,

the top of which lies below six thousand (6,000) feet; the location of the well shall be in the approximate center of one of the quarter-quarter-quarter sections which corners on the center of the one hundred sixty (160) acre unit;

and hereby expressly authorizes by this general order the issuance of permits and the commencement of wells in accordance with the spacing provided in this Section (1) (A) (1) of Rule IV, notwithstanding the fact that notice may have been given of a hearing upon any application to establish drilling and spacing units.

(2) The Mining Board, upon application of any interested person and after notice directed to all interested persons as prescribed in Section (1) (A) (6) of Rule IV and hearing thereon, shall establish by specific order a drilling unit or units for each pool. All drilling units established for each pool or portion thereof shall be of uniform shape and size.

(3) All drilling units in pools, in response to initial application for establishing the size of drilling units, shall be established to include the greatest area (authorized by the Act) which may be efficiently drained by one well. When and if information from additional wells demonstrates that different drilling units are needed, then, upon application by any interested person and after notice directed to all interested persons as prescribed in Section (1) (A) (6) of Rule IV and hearing thereon, the existing order establishing the size and shape of drilling units shall be modified.

(4) Each order establishing drilling units in any pool shall prohibit the drilling of more than one well on any drilling unit for the production of oil or gas from the particular pool with respect to which the drilling unit is established and shall specify the location for the drilling

of such well thereon. Such location shall be fixed whenever possible to permit reduction of the size of such drilling units or drilling of additional wells on such drilling units. Each such order shall also specify the geographic limits of the pool or pools subject to such order.

(5) For good cause shown upon application and after notice as provided in Rule IV (1) (A) (6) hereof and after hearing, the Mining Board shall grant exceptions to the size and shape of a drilling unit or the location of the well in a drilling unit in accordance with the provisions of subsection (E) of this section (1) of this Rule IV. Whenever it appears that the geographic limits of a pool as specified in an order are incorrect, the Mining Board shall, upon application of an interested person and after notice and hearing as required in Rule IV (1) (A) (6), amend the order to specify the correct geographical limits of the pool.

(6) Each application filed under Rule IV (1) (A) (2) above shall be filed in the Oil and Gas Division of the Department of Mines and Minerals. Each such application shall, insofar as possible, contain all information needed by the Mining Board to take the action requested. Notice of all hearings held under said Rule IV (1) (A) (2) above shall be given as provided in Rule I (13) (C) hereof. Every application filed under this Rule IV (1) (A) (2) shall be heard and an order entered by the Mining Board within thirty (30) days after the filing thereof as required herein. All interested persons shall be entitled to be heard at every hearing held under this Rule IV (1) (A) (2).

(B) SEPARATELY OWNED TRACTS WITHIN DRILLING UNIT.

All orders requiring integration of interests as provided for in the Act shall be made upon application, after notice as provided in Rule I

(13) (C), and after hearing. The applicant shall furnish all pertinent data and information requested or required by the Mining Board.

(C) TWIN WELLS.

Twin wells may be drilled on a drilling unit to different formations, allocating the acreage in the drilling unit for each producing formation as above provided.

(D) WELLS WITHIN CORPORATE LIMITS.

A certified copy of the official consent of the municipal authorities to drill or deepen a well located within the limits of any city, incorporated village, or town must accompany the application for permit. A certified copy of consent of the municipal authorities is also required for an amended location.

(E) EXCEPTIONS.

(1) Whenever the topographical conditions of a drilling unit render it impractical, without unreasonable expense, to drill a well at a location in conformity with the spacing rules, the Mining Board may alter the location after investigation and verification of the topographical conditions.

(2) In those areas where the United States Government has not made an official survey, in areas covered by the old French Surveys and Grants, in meandered lands, in government lots, and in subdivisions thereof where the acreage in quarter-quarter-quarter sections and quarter-quarter sections does not conform to the spacing and drilling requirements of the law and the rules and regulations, the Mining Board shall have the authority to establish drilling units and to grant exceptions for wells when such drilling units will not cause a greater well density than would be encountered in regular official surveys.

(3) In case of irregular sections containing more or less than six hundred forty (640) acres, the Mining Board shall have the authority to allow exceptions or create units in order to absorb the entire acreage in such sections into drilling units.

(4) Gas, air, water, or other liquid input wells, salt water disposal wells, and structure tests are exempt from any spacing requirements.

(5) In order that a proposed well may be located over an existing or proposed pillar of a mine property, the foregoing spacing requirements may be waived by the Mining Board when the well to be drilled or deepened for oil or gas will penetrate an active mine, the mined-out or inaccessible portion of an active mine, a temporarily abandoned mine, or the undeveloped limits of any such mine property.

(6) Each person desiring the Mining Board to grant an exception for a reason other than those specified in Paragraphs (1), (2), (3), (4), and (5) of this Section (E) shall submit with his application for permit a statement setting forth the desired exception and the reasons or necessity therefore, and giving in detail the action the applicant has taken in such matter. The applicant shall notify, by registered mail or certified mail on or before the day the application is filed with the Mining Board, the owner or manager of every oil and gas well within one-half ($1\frac{1}{2}$) mile radius of the proposed well location, and proof of such notice shall accompany said application. Upon receipt, the Mining Board shall hold such application and proof of notice ten (10) days for possible objections. In the event objection is made within such time or the Mining Board deems a hearing should be had, the Mining Board shall give notice to each owner or manager listed in the proof of notice, and to the applicant, of the date and

place designated by the Mining Board for such hearing. After such hearing, the Mining Board shall either issue or deny the permit.

(2) SECONDARY RECOVERY

Spacing regulations for oil wells will not be waived in areas where the applicant declares an intention to undertake a proposed secondary recovery operation, until one or more input wells are first drilled or other wells are actually converted to input wells after permits have been issued for such conversion.

(A) PATTERN FLOOD

(1) When an applicant applies for a permit to drill or deepen an oil well at a location which complies with the regular spacing requirements set out in Rule IV (1) (A), a permit shall be issued by the Mining Board.

(2) When an applicant applies for a permit to drill or deepen an oil well using the same spacing pattern as that used in an adjacent pattern flood, a permit shall be issued by the Mining Board.

(3) When an applicant applies for a permit to drill or deepen an oil well at a lesser distance to the boundary lines of his leasehold than are the existing oil wells in an adjacent pattern flood, the applicant shall notify, by registered mail or certified mail, the owners or managers of oil wells in the established secondary recovery projects within one-half mile of the proposed well, stating his intentions as described in his application for a permit. A copy of the notification will be held by the Mining Board ten days after its receipt with the application for a permit. If no written objections are received by the Mining Board from the operators so notified, the permit shall be issued. If written objections are received by the Mining Board within the ten-day period, the Mining Board shall call a hearing to determine

the merits of issuing such a permit. After such hearing the Mining Board shall either issue or deny the permit.

(B) OTHER FLOODS

(1) When the spacing of oil wells and/or input wells is not based on a geometric arrangement, as defined in the definition of a pattern flood, the following shall apply:

- (a) When the location of the proposed oil well requested complies with the regular spacing requirements set out in Rule IV (1) (A), a permit shall be issued by the Mining Board.
- (b) When the location of the proposed oil well requested does not comply with the regular spacing requirements set out in Rule IV (1) (A), the applicant shall notify, by registered mail, the owners or managers of oil wells within one-half mile of the proposed well, stating his intentions as described in the application for a permit. A copy of the notification will be held by the Mining Board ten days after its receipt with the application for a permit. If written objections are received by the Mining Board within the ten-day period, the Mining Board shall call a hearing to determine the merits of issuing such a permit. If no written objections are received by the Mining Board from the operators so notified, the Mining Board shall either issue a permit or, at its discretion, call a hearing to determine the merits of issuing such a permit. If a hearing is held, the Mining Board shall subsequently either issue or deny the permit.

(C) RECORD TO BE KEPT

If any owner or manager of a leasehold adjoining a secondary recovery project files with

the Mining Board a verified complaint stating that he has reasonable grounds to believe secondary recovery operations are being conducted on the offset leasehold in such manner as to violate or impair his right to recover the oil or gas underlying his leasehold premises, the Mining Board may require the owner or manager of such secondary recovery project to submit to the Mining Board his or its records and data showing the average production from said leasehold, the formation or formations subjected to such secondary recovery operations, and the daily injection volume and pressure of each input well thereon, during the period of two full calendar months preceding the filing of such complaint. If such records have not been kept by such owner or manager, the Mining Board may require that the same be kept for a specified period of time, not to exceed two full calendar months, and furnished to the Mining Board. The information or data submitted by the owner or manager of such secondary recovery project shall be confidential except that the Mining Board may exhibit the same to complainant. This rule shall not be construed to prevent the Mining Board from taking any other action authorized by the Act which it may deem necessary in order to prevent waste.

(3) NONCONFORMING WELL TO BE PLUGGED

Any well drilled in violation of the permit issued therefore shall not be allowed to produce oil or gas, but after notice and hearing by the Mining Board the said well shall be plugged and abandoned unless an exception be granted by the Mining Board.

RULE V

FILING OF LOGS AND WELL INFORMATION

(1) RETURN OF COMPLETION REPORT

A completion report will be attached to each drilling permit issued by the Mining Board. Upon completion of the well for which the permit is issued, the owner, manager, or operator of said well shall furnish the information requested thereon, and shall mail the same promptly, addressed to the Oil and Gas Division of the Department of Mines and Minerals, Springfield, Illinois.

(2) WELL LOG TO BE FILED

The Mining Board requires the owner or manager of any well drilled under the provisions of the Act, to file with the State Geological Survey, Urbana, Illinois, within thirty (30) days of completion of the well, a log of strata encountered and all geophysical logs including electric logs except velocity, sonic and dipmeter surveys made in the well. The Mining Board also requires that a drilling time log shall be filed with the Survey when so specified on the permit.

(3) CONTENTS OF WELL LOG

Such logs shall show:

(A) The name, number, location and elevation of the well in accordance with the description required by the Mining Board in the application for the permit to drill such well;

(B) The name, character, depth and the thickness of the formations passed through or encountered in the drilling of such well and the depth and thickness of each oil-, gas-, or water-bearing formation or strata encountered;

(C) The depth and thickness of coal beds and deposits of mineral materials of economic value;

(D) The results on completion, whether the well was dry or productive of oil or gas, and if productive, the initial production ;

(E) If fresh water has been encountered, the approximate capacity ;

(F) The elevation above mean sea level of the point from which the depth measurements are made, stating its height above ground level at the well.

The correctness of the log shall be subscribed and sworn to before a notary public, that the statements contained therein are true.

When requested in writing by the owner, any or all information contained in any such log hereby required will be kept confidential until released in writing by the owner thereof or his legal representatives after its lodgment in the office of the State Geological Survey ; however, no such information shall be kept confidential for more than one (1) year from the date of issue of the drilling permit for the particular well.

(4) COLLECTION OF DRILL CUTTINGS

As provided by the Act, the Mining Board shall notify the person or persons to whom any permit is issued, at the time of the issuance thereof, either to collect or not to collect for the State Geological Survey, drill cuttings representing each run drilled in cable tool wells and each ten (10) feet of distance drilled and drilling time in rotary wells. When so notified by the Mining Board to collect such cuttings hereby required, the permittee shall obtain containers for such cuttings, and information as to the approved method of collecting drill cuttings from the State Geological Survey, Urbana, Illinois.

RULE VI

IDENTIFICATION OF LEASES AND TRANSFER OF MANAGEMENT

(1) LEASE AND WELL IDENTIFICATION

To identify all producing leases the owner or manager thereof shall cause a sign to be placed where the principal lease road enters the lease and such sign shall show the name of the lease and the owner or manager thereof and the section, township and range.

A legible numeral shall be attached or painted on pumping unit or jack of each well or a legible sign placed near the well to identify the well number.

(2) TRANSFER OF MANAGEMENT

The Mining Board shall be notified within ten (10) days after the transfer of each change of management of a producing oil and gas leasehold estate or fee production.

(3) RESPONSIBLE OWNERSHIP REPRESENTATIVE

The owner or manager of all present and future producing leases shall file with the Mining Board a roster in duplicate, which lists the names, addresses, and telephone numbers of at least two (2) persons having the responsibility for the operation or supervision of each lease. This roster must be kept current to enable the Mining Board to contact a responsible ownership representative in the event of emergency conditions arising from the lease operation. Such roster for present producing leases shall be filed within ninety (90) days after the adoption of this rule. Any owner or manager commencing operations on a new lease hereafter shall file said roster in connection thereto within thirty (30) days after completion of the well.

RULE VII

WASTE PROHIBITED

(1) AVOIDABLE WASTE OF GAS

In drilling any well, if a gas sand or stratum is penetrated, the hole must not be left open so that an avoidable escape of gas, which in the opinion of the Mining Board constitutes waste, will occur during further drilling in or through such stratum or during temporary abandonment of the well. The Mining Board may require mud-laden fluid to be applied, or the gas stratum cased off, or any suitable method adopted which will arrest such escape of gas.

Gas produced in connection with the production of oil shall be burned in flares where there is no market at the well for escaping gas. The operators of casinghead gas plants operated for the extraction of liquid hydrocarbons from the gas shall burn the residue gas in flares when no market exists at such plant for the residue gas or when the gas is not returned to an oil pool or field for pressure maintenance or repressuring of the oil pool or field.

(2) ESCAPE OF UNBURNED GAS PROHIBITED

The escape of unburned gas from any well into the air or atmosphere is hereby prohibited. All such surplus gas, not otherwise utilized, shall be burned at a safe distance from any well, storage tank or building.

(3) BURN-OFF PITS

To prevent fire hazards and waste from waste oil, the same shall be collected in burn-off pits which shall be located a safe distance from oil storage tanks, buildings, or other structures, and shall be

burned as often as necessary to prevent overflowing. Such pits shall be constructed to prevent the escape of oil therefrom, and shall have a continuous wall completely surrounding the pit of sufficient height above the surface to prevent surface water from running into the pit. Earthen pits will be permitted at locations where the soil is heavy and tight, but shall be prohibited in locations where the soil is porous and closely underlaid by either gravel or sand strata.

(4) LEASE TANK RESERVOIRS

When it is deemed necessary by the Mining Board to protect life, health or property, the Mining Board may require any lease or oil storage tanks to be surrounded by an earthen dike which shall have a capacity of one and one-half ($1\frac{1}{2}$) times the capacity of the tank or tanks it surrounds, which dike shall be continually maintained; and the reservoir within shall be kept free from vegetation, water or oil.

(5) FIRE HAZARDS AT WELL LOCATIONS

All well and tank locations shall be kept free of dead grass, brush, weeds and other inflammable material and so maintained at all times.

RULE VIII

PROTECTION OF WORKABLE COAL BEDS

To prevent waste, the Mining Board shall protect workable coal beds in the drilling, casing, and plugging of wells drilled for oil or gas, or for any other purpose in connection therewith.

(1) WORKABLE COAL BEDS DEFINED

All coal beds or seams thirty (30) inches or more in thickness less than one thousand (1000) feet below the surface shall be determined as workable. When any well drilled for oil or gas, or to be used in connection therewith, penetrates such coal seams or ceases to be used for the purpose drilled, such coal seams shall be protected as herein provided.

(2) MINING BOARD MAY DETERMINE PRESENCE OF COAL SEAMS

The Mining Board shall have authority to determine when workable coal beds or seams are present, by geological data obtained from the State Geological Survey, or other relevant information which would indicate the presence of workable coal beds or seams underlying the well site.

When the presence of any coal strata or seam is disputed by the owner or manager of a well, and such condition is contrary to the geological information possessed by the Mining Board, such contention of the owner or manager shall be supported by an affidavit on a form prescribed and furnished by the Mining Board, which affidavit shall be executed by a geologist or other person qualified and competent to determine the presence of such disputed coal strata or seam. When such affidavit has been filed with the Mining Board, it shall have au-

thority to determine the issue, after obtaining all further geological information possible, or if the Mining Board deems expedient, it may on its own motion, call a hearing to be held as herein provided to determine such facts.

(3) WELL LOCATIONS PROHIBITED

No well for oil or gas shall be drilled within two hundred fifty (250) feet from any opening of an active coal mine used as a means of ingress or egress for the persons employed in such mine, or which is used as an air shaft, except by mutual agreement between the person owning or operating the mine and the oil or gas operator.

(4) NOTICE TO MINING BOARD

At least twenty-four (24) hours prior to reaching the depth of mine workings or the undeveloped limits of the mine, the person in charge of drilling operations shall notify the Mining Board or Mining Board Representative and the mine representative of the time when such well shall reach such point, in order that the Mining Board may have a Mining Board Representative present on the well site at such time.

(5) CASING AND PROTECTIVE WORK

Whenever the Rules and Regulations require a mine string to be set in a mine area, the casing used inside the mine string shall be new.

Any protective work required in a mine area shall be under the supervision of the Mining Board.

(6) OPERATIONAL REQUIREMENTS OVER ACTIVE MINE

(A) MINING BOARD TO DETERMINE SAFETY FACTORS

No well shall be drilled into any coal mine or mine workings in any active mine until the Mining Board Representative is present and determines that the mine or mine workings are safe.

Until the Mining Board Representative is satisfied that adequate protection has been provided so that no hazard exists, drilling operations shall be suspended. After any protective or corrective work, required by the Mining Board Representative, has been satisfactorily completed by the well owner, manager or his representative, drilling operations may be ordered resumed; but if in the opinion of the Mining Board Representative it is impossible to adequately protect the mine or mine workings, he shall order the permit revoked and the well plugged in the manner hereinafter provided.

(B) DRILLING METHODS AND PROCEDURE

(1) GENERAL

All wells drilled through an active coal mine or through an abandoned portion of an active mine shall be located if possible in order to pass through an adequate pillar.

(2) MINE PROTECTIVE STRING

Whether drilled through a pillar or not, a mine string of casing of good quality shall be set to protect the mine. The mine string shall be treated with a heavy impervious coating of asphalt, plastic, or other acid-resisting material from fifty (50) feet above the mine roof to a point fifty (50) feet below the mine floor or base of coal seam.

The outside diameter of the mine string shall be at least four (4) inches smaller than the diameter of the well bore and equipped with centralizers or similar mechanical device above and below the coal seam. The mine string shall be set at an approximate depth of fifty (50) feet below the base of the coal seam and cemented from the casing seat to the surface.

If the mine string misses a pillar and is set through an open room of an active mine or the abandoned portion of an active mine, an umbrella, basket, or packer must be used on the mine string to set above the mine roof and the mine string shall be cemented from the casing seat to the mine floor and also cemented from the umbrella, basket, or packer set above the mine roof to the surface.

(3) CEMENTING OIL STRING

The outside diameter of the oil string shall be at least three (3) inches smaller than the inside diameter of the mine string when set through a pillar, and the outside diameter of the oil string shall be at least four (4) inches smaller than the mine string when set through an open room and equipped with centralizers, or similar mechanical devices, immediately above and below the coal seam. The centralizers shall be so spaced as to be within the mine string of casing.

The oil string shall be surrounded with cement from the casing shoe to the surface, or the oil string may be cemented using multiple-stage cementing tools, as hereinafter provided.

When the multiple-stage cementing method is used, at least one hundred (100) sacks of cement shall be placed around the casing shoe and the multiple-stage cementing tool placed one hundred (100) feet below the floor of the mine and cemented from that point to the surface.

In areas where thief zones or high permeability horizons occur below the level of the mine, the Mining Board may require multiple-stage cementing tools to be used in the cementing of the oil string in order to assure protection for the mine.

(4) TEMPERATURE SURVEY REQUIRED

When drilling through mined out areas which are not accessible, and, if, in the opinion of the Mining Board representative, it is necessary, a self-registering thermometer shall be lowered to the mined out level, and if the recorded temperature shows the possibility of fire at or near the position of the hole, the drilling permit shall be revoked and the hole plugged, as herein required.

(C) SHOOTING WELLS OVER ACTIVE MINES OR WORKED OUT PORTIONS OF ACTIVE MINES

(1) SHOT LESS THAN FIFTY (50) QUARTS

When any well is located over or penetrates an active mine or worked out portions of an active mine, before shooting the oil-bearing formation, the well owner or manager shall proceed as follows:

- (a) Notify the Mining Board or Mining Board Representative at least twenty-four (24) hours in advance of the time the shot is to be fired.
- (b) Notify the mining company at least twenty-four (24) hours in advance of the time the shot is to be fired.
- (c) Tamp the shot with a minimum of sixty (60) feet of tamp, at least the top thirty (30) feet of which shall be of impervious material, being sure that the top of the tamp extends to a place in the hole opposite solid rock formation. Fill the hole to the top with fluid of consistent viscosity and specific gravity.

(2) SHOT EXCEEDING FIFTY (50)
QUARTS

When the charge exceeds fifty (50) quarts of nitroglycerin:

- (a) Apply to the Mining Board for permission to shoot, indicating the size of charge to be used.
- (b) In the absence of written authority from the coal company for the specific shot, the Mining Board shall:
 - (1) Immediately upon receipt of application notify the coal company indicating location of well and size of charge to be used.
 - (2) If no objection is filed by the coal company within twenty-four (24) hours, the Mining Board shall give permission to fire the shot.
 - (3) If coal company objects, the Mining Board shall, within twenty-four (24) hours of receipt of said objection set matter for hearing and determination in county where well is located.
- (c) Extend the tamp with impervious material ten (10) feet beyond the minimum tamp of sixty (60) feet for each additional ten (10) quarts of charge used, being sure that the top of the tamp extends to a place in the hole opposite solid rock formation. Fill the hole to the top with fluid of consistent viscosity and specific gravity.

RULE IX

AVOIDANCE OF FRESH WATER POLLUTION AND DISPOSAL OF SALT WATER OR OTHER LIQUIDS TO PREVENT WASTE AS DEFINED IN THE ACT

To assure fresh water supplies and to prevent waste, no person shall dispose of salt water or other waste liquids except in the following manner. Any other method of disposal is hereby prohibited.

(1) DISPOSAL IN UNDERGROUND STRATUM

Salt water or other waste liquids may be disposed of into an underground formation or strata after a permit to do so has been procured from the Mining Board as hereinbefore provided. The Mining Board shall have authority to designate and approve the stratum into which such liquids shall be disposed of, also the protective work necessary to confine such liquids to the intended stratum. All such work shall be executed under the supervision of a Mining Board Representative and shall conform to the requirements imposed in granting the permit therefore.

(2) DISPOSAL IN EARTHEN PITS

Salt water and other waste liquids may be impounded and collected or disposed of by evaporation in excavated earthen pits where the salt water or other waste liquids will not contaminate ground water or pollute surface water in accordance with the following rules.

(A) NEW PITS

Before any earthen pit may be constructed for such purposes the operator shall file with

the Mining Board an application on a form approved by the Board. The form may request such geological and engineering data as is reasonably necessary to enable the Oil and Gas Division to determine whether or not the pit will be sufficient to prevent the contamination of ground water or pollution of surface water.

Within ten days after receipt of such application, the Mining Board shall:

1. Return the application with an explanation as to why permit has been refused, or
2. Issue a permit for the construction and use of the pit.

Earthen pits may be constructed for such purposes only when the pit is underlain by tight soil such as clay or hardpan. Where the soil under the pit is porous and closely underlain by a gravel or sand stratum, impounding of salt water or the waste liquids in such earthen pits is hereby prohibited except where pit is constructed with such material which will prevent seepage from the pit.

(B) EXISTING PITS

Within six (6) months from the effective date of this rule, operators of all existing salt water pits shall submit application for a permit for said pits on such form as the Mining Board may provide. The application will be approved subject to physical inspection if the pit adequately prevents the escape of waste liquids.

When such liquids are impounded in earthen pits, the pit shall be constructed and maintained so as to prevent escape therefrom. The waste liquids in earthen pits shall at no time be permitted to rise above the lowest point of the ground surface level. All pits shall have continuous walls surrounding them so that no surface drainage from adjacent areas can enter the pits. No pit shall be used in an area which is subject to flooding by streams, rivers, lakes, or

drainage ditches, unless so constructed that the pit would not normally be affected by flooding.

(3) PIPES TO BE KEPT IN REPAIR

A pipe conveying such liquids to any salt water disposal well or pit shall be kept in good repair and free from leaks, and no outlet valve will be permitted in such pipe between the place of origin and discharge.

(4) SLUSH AND MUD PITS

When drilling with cable tools, the operator shall provide at least one (1) properly prepared slush pit, into which he must deposit mud and cuttings. When drilling with rotary tools, the operator shall provide the necessary mud circulation and reserve pits.

(5) ROTARY DRILLING PROCEDURE

To protect fresh water stratum the following rules on "Drilling Procedure" shall apply to wells drilled with rotary tools:

It is incumbent on the operator to ascertain and set suitable and safe surface casing in all wells drilled from the effective date of these rules. In all wells drilled in areas where pressure and formation are unknown, sufficient surface casing shall be run to reach a depth below all utilized fresh water levels and shall be of sufficient size to permit the use of an intermediate string of casing. Surface casing shall be set in or through an impervious formation, and shall be cemented by the pump and plug or displacement method with sufficient cement to circulate to the top of the hole.

In wells drilled in areas where the subsurface conditions have been established by drilling experience, surface casing size at the operator's option shall be set and cemented to the surface by the pump and

plug or displacement method at a depth to protect all utilized fresh water.

Cement shall be allowed to set under pressure before drilling the plug in accordance with standards prevailing in the area.

In lieu of surface casing requirements as set out herein and at the option of the operator the flow string may be cemented by the pump and plug or displacement method with sufficient cement to protect all utilized fresh water stratum.

In the event that it is later determined that utilized fresh water strata exist below the surface casing in a producing oil, gas or service well, then the operator, contractor, or owner shall under the supervision of a representative designated by the Mining Board, cause the flow string to be perforated and squeezed with cement to protect such fresh water strata, or take such other measures for the protection of such fresh water strata as are ordered by the Mining Board after notice and hearing.

(6) CABLE TOOL DRILLING RULES

Before commencing to drill, proper and adequate slush pits shall be constructed for the reception of mud of sufficient quality and quantity so that such mud may be available if and when the hole is plugged.

Where cable tools are used, sufficient surface casing shall be set to protect all utilized fresh water levels, and subsurface casing shall be cemented by the pump and plug or displacement method with sufficient cement, provided further that any hole drilled by cable tools where fresh water stratum is encountered fifty (50) feet or less from the surface, methods other than noted above may be used in setting surface casing, provided such method protects all utilized fresh water stratum.

(7) MINING BOARD SUPERVISION

When salt water or other waste liquid is not properly impounded or is being improperly disposed of, or pollution of utilized fresh water stratum is occurring from improper drilling procedures, the Mining Board shall order such improper condition corrected when it is determined that the disposal method used pollutes utilized fresh water supplies, creates a hazard, or is injurious to life, health, or property.

(8) YEARLY INSPECTION OF PITS— REVOCATION OF PERMITS—OR- DERS FOR CORRECTIVE ACTION AND OTHER DISPOSAL

All pits for which permits have been issued shall be subject to a yearly inspection by the Mining Board. After ten (10) days written notice to the operator, and after a hearing, the Mining Board may condemn any pit which does not properly impound salt water and other waste liquids, and (1) order revocation of the pit permit, (2) order the operators to take measures to correct the defective conditions of the pit, or (3) order the operator to dispose of such liquids and waste by some other means. Such orders of the Mining Board requiring the operator to take corrective measures or to dispose of liquids and waste by other means shall specify the period of time (no less than 10 days nor more than 90 days) the operator shall have to take corrective measures or to make alternate disposal. Such period of time shall be extended by the Mining Board when circumstances beyond the control of the operator effectively prevent the operator's compliance. The pit permit shall automatically be revoked unless the operator has complied with such orders by the expiration of said time period.

RULE X

VACUUM

The use of vacuum pumps or other devices for creating a vacuum on any oil- or gas-producing stratum is hereby prohibited until the owner or manager has complied with the following requirements:

(1) APPLICATION FOR USE OF VACUUM

On or before the date of filing an application by letter for the use of vacuum on any leasehold, the applicant shall notify, by registered mail, all other persons owning or managing producing oil or gas wells located within one-half ($\frac{1}{2}$) mile radius of the well or wells where the use of vacuum is proposed, and shall set out in the notice the proposed strata or formation and exact location of the well or wells to be affected by the application or use of such vacuum. The applicant shall submit proof of such notice with the application, giving the names and addresses of all well owners or managers within such one-half ($\frac{1}{2}$) mile radius.

(2) NOTICE AND HEARING ON APPLICATION

On receipt of such application and proof of notice, the Mining Board shall hold the same for ten (10) days pending the filing of objections, and if none is received at the end of such period, the application may be approved by the Mining Board.

In event objection is made by the owner or manager of any well or wells producing from the same formation, which are located within one-half ($\frac{1}{2}$) mile radius of the proposed vacuum installation, and the Mining Board deems a hearing shall be had,

notice shall be given to each objector and the applicant, of the time and place designated by the Mining Board for such hearing.

(3) MINING BOARD AUTHORITY

The Mining Board shall have authority after notice and hearing to prohibit vacuum or to deny or revoke permission for the use of vacuum when, in its judgment, there is danger of underground waste.

The Mining Board shall have authority to grant permission when it believes a further recovery of oil can be obtained by use of vacuum without danger of underground waste.

RULE XI

PLUGGING OF WELLS

As provided by the Act, as amended, and to prevent waste as therein defined, any owner or manager who owns, has drilled, or has acquired a nonproductive well drilled for oil or gas, or for any other purpose in connection with the exploration and production of the same, including unused input wells, salt water disposal wells, and geological or structure test holes drilled below the glacial drift, shall be required by the Mining Board to securely plug and abandon such well in the manner herein provided, except when an extension of time has been granted by the Mining Board in writing.

(1) MINING BOARD SUPERVISION

The plugging and abandoning of wells and the consequent pulling of casing or the partial plugging back operations from one formation to another shall be under the supervision of the Mining Board and the Mining Board Representative. The Mining Board shall have authority to prohibit the plugging of a well when the equipment used is not adequate or is insufficient, in the opinion of the Mining Board, to perform the abandonment according to the Rules and Regulations.

When the casing in any well is not the property of the person owning the well, the owner of such casing is prohibited from pulling the same until he has notified a Mining Board Representative, and then shall securely plug such well under the supervision of the Mining Board in the same manner as the owner of the well is herein required.

(2) WHEN WELL TO BE PLUGGED

The owner or manager shall not permit any well drilled for oil, gas, salt water disposal or any other

purpose in connection with the production of oil and gas, to remain unplugged after such well is no longer used or held for use for the purpose for which it was drilled or converted.

Unless the operator of any such well has been granted an extension of time to plug pursuant to Section (8) of this Rule XI, such well shall be plugged when and if:

(a) drilling operations on a drilling well shall have ceased for a period of 30 days and no production string has been run.

(b) any well for which operations have ceased for a period of six (6) months, provided however, in any event, if the surface equipment is not in place on such well, the well shall be capped promptly for safety reasons.

(3) PRIOR NOTICE TO MINING BOARD REPRESENTATIVE

When the owner or manager of any inactive, nonproductive or nonoperative well desires to plug such well or partially plug back to a different formation or to withdraw casing from such well, he shall notify a Mining Board Representative and, if in an active coal mine area, notify the owner or operator of such coal mine at least eight (8) hours in advance of the time he expects to begin plugging or pulling casing. The commencement of such operations, including shooting off casing, is prohibited until an authorized Mining Board Representative is present.

(4) OWNER TO FURNISH WELL LOG

Upon arrival of the Mining Board Representative at the site of the well to be plugged or partially plugged back to a different formation, the owner or manager of the well, or his representative, shall make available to the Mining Board Representative a complete log of the well, which shall show the character and depth of all formations encountered

in the drilling of such well, particularly showing the depth and thickness of all oil-bearing strata, gas-bearing strata, water-bearing strata, and workable coal beds.

When no log is furnished by the owner, the Mining Board may require the well to be filled with cement from bottom to top, or the Mining Board may require it to be plugged in accordance with the knowledge of logs of nearby wells.

(5) PLUGGING METHODS AND PROCEDURES

(A) GENERALLY

A cement plug to protect the producing formation must be placed opposite the producing formation and extend to a point twenty (20) feet above the top of said producing formation. In cases where the history of the well shows that heavy or repeated shots in a sandstone formation, or heavy or repeated acidization in a limestone formation, render it probable that a large cavity exists within the producing formation, it is permissible to fill such cavity with sand, crushed rock, or other suitable material approved by the Mining Board in order to provide an anchor on which to place a cement plug not less than twenty (20) feet in length above the top of such producing formation. A cement plug is to be placed below the casing seat of the oil string and extend to a point twenty (20) feet above said seat and if there is a liner that is not to be withdrawn, said cement plug shall be placed at the top of the liner and extend to a point twenty (20) feet above.

No sand, gravel, or other foreign substance shall be mixed in the slurry; however, the use of an admixture of special mud materials may be used, subject to the approval of the Mining Board Representative.

(B) PROTECTION OF COAL SEAMS

Each coal seam of thirty (30) inches or more of thickness and lying above the depth of one thousand (1000) feet shall be protected by a cement plug extending one hundred (100) feet above said coal seam to a distance of fifty (50) feet below the same or to the bottom of the hole, whichever is less.

In wells penetrating an active mine or the worked out area of a mine or the undeveloped limits of a mine property having workable coal seam or seams, a substantial support shall be provided for each cement plug required for coal seam protection. The supporting plug shall consist of wood or other suitable material having adequate strength and shall be set and tested to determine that settlement or a movement of the cement plug will not take place during the period required for the setting of the cement.

(C) SHOOTING CASING IN ROTARY HOLE

In wells originally drilled by rotary tools, before any casing is shot off or otherwise parted at a point above the casing shoe, the hole must be filled with properly prepared mud of not less than thirty-eight (38) viscosity, or other suitable material, to the point of parting. After the casing is parted and withdrawn, the hole must be completely filled with mud.

A cement plug twenty-five (25) feet in length shall be placed ten (10) feet below the base of the surface casing and extend to a point at least fifteen (15) feet above the base of surface casing. The remainder of the hole shall be filled with mud.

The surface casing shall be cut off three (3) feet below the surface of the ground and a mushroomed cement cap of approximately one (1) foot in thickness shall be placed over the casing so that the top of the mushroomed cap is at least

two (2) feet below the surface of the ground. The hole shall then be filled with dirt and the surface of the ground leveled.

In the event that surface casing has not been used, a cement plug shall be placed in the hole three (3) feet below the surface to a depth of twenty-five (25) feet. A mushroomed cement cap of approximately one (1) foot in thickness shall be placed over the top of the hole so that the top of the mushroomed cap is at least two (2) feet below the surface of the ground. The hole shall then be filled with dirt and the surface of the ground leveled.

These provisions shall not exclude the placing of cement in the producing formation or opposite workable coal seams as herein provided. The surface casing of such wells shall not be withdrawn.

(D) IN WELLS DRILLED WITH CABLE TOOLS

In wells drilled and completed by cable tools, the producing formations and all workable coal seams must be protected as heretofore provided. As each string of casing is picked up or parted, it shall be raised one joint, and then approximately one-fourth ($\frac{1}{4}$) yard of native clay or mud dropped down the casing and allowed to settle below the base of casing.

When pulling casing from wells where caving occurs which partially fills the well bore the remainder of the hole shall be plugged as herein provided.

In such cases and also in wells where formation or walls of the hole do not cave, the hole shall be filled to within twenty-five (25) feet of the surface with native clay or Bentonitic materials.

In areas where in the drilling of the well it was necessary to drive pipe for the outside string

in order to prevent caving or to protect fresh water horizons or formations, this drive pipe shall be left in place and not removed.

Where drive pipe is used it shall be cut off three (3) feet below the surface of the ground and a twenty-five (25) foot cement plug run inside the drive pipe and anchored thereto.

Where surface casing has been pulled, a cement plug shall be placed at a point three (3) feet below the surface to a depth of twenty-five (25) feet.

In either event where drive pipe is used or the surface casing has been pulled, a mushroomed cement cap of approximately one (1) foot in thickness shall be placed at a point three (3) feet below the surface of the ground and allowed to mushroom until the diameter of the cement plug is at least three (3) times the diameter of the hole drilled, then the hole shall be filled with dirt and the surface of the ground leveled.

(E) WHEN CASING LEFT IN HOLE

In wells where casing is not removed when wells are abandoned, the plugging operation shall be done in the same manner as provided for abandoning wells where casing is withdrawn.

(F) FOREIGN MATERIAL PROHIBITED

No person shall knowingly or purposely place or lodge any foreign material or substance in an unplugged well which will either fill or bridge such hole.

When foreign material has been knowingly or purposely placed in the hole the Mining Board may require such material to be removed before plugging operations are commenced.

(G) PLUGGING BRIDGED HOLE

When in normal production or drilling operations the hole becomes plugged or obstructed because of loss of drilling tools or producing

equipment which it would be impractical or impossible to remove, special consideration shall be allowed and the well shall be plugged as nearly to the aforementioned requirements as existing circumstances will permit. The exact method of plugging and the equipment lost shall be shown on the plugging affidavit.

(6) CONVERTING TO WATER WELL

When the fee owner of the surface desires to utilize a well to be abandoned for fresh water purposes, such well need not be filled above the fresh water strata or bed, but a twenty-five-foot (25) cement plug shall be placed immediately below such fresh water bed, provided, however, written authority for such use is secured from the fee owner who shall also sign and file with the Mining Board a release form furnished by the Mining Board, thereby releasing the owner, manager, or operator from all responsibility and statutory or other requirements for the further plugging of said well.

(7) RESTORATION OF SURFACE

Leaving the surface of lands with a part of the operating structure or other equipment intact after abandoning or plugging a well or wells is against public policy and constitutes public nuisances and shall be hereafter prohibited. Whenever any owner or manager shall abandon or plug a well or wells he shall within six (6) months thereafter clear the area around the location of all refuse material, burn waste oil, drain and fill all excavations, remove concrete bases, machinery and materials, and level the surface to leave the site as nearly as possible in the condition encountered when operations were commenced, unless the fee owner of the surface of said land and the owner or manager have entered into a written contract providing otherwise. A copy of this contract shall be filed with the Mining Board for their approval.

When the fee owner of the surface desires to utilize the pits dug in connection therewith, the fee owner shall sign and file with the Mining Board a release form furnished by the Mining Board, thereby releasing the owner, manager, or operator from all responsibility and statutory or other requirements for the further filling of the pits.

Any person, firm, association, partnership or corporation violating the provisions of this Act shall be subject to penalties of the Public Nuisance Act as set forth in Section 222 of the Criminal Code of the Illinois Revised Statutes.

(8) EXTENSION OF TIME TO PLUG WELL

Upon written application for an extension of time to defer the plugging and abandonment of any unplugged well, the Mining Board, at its discretion, may grant such extension for a reasonable period of time when good cause can be shown by the person making the application, and providing the casing is all left in the well and is in sound condition. If water was encountered which will flood oil-bearing formations exposed in the open hole, the water-bearing formation below the casing seat shall be plugged off with cement. The top of the casing shall be securely capped.

Requests for an extension of time to plug shall be granted by the Mining Board if the cause shown by the operator shall be for the use of future possible production or other good causes. The extension of time granted by the Mining Board shall and hereby does require the operator to notify the Mining Board of any change in status of the well. Any extension of time to plug shall be on a non-transferable basis.

If no bond covering such well is then in effect, a bond shall be given before the extension is granted, and such bond shall remain in full force and effect until the well is plugged and the other requirements of final abandonment have been completed.

At the expiration of any extension granted, the well shall be plugged and abandoned if a further extension is denied by the Mining Board.

(9) FILING PLUGGING AFFIDAVIT

Immediately after the plugging of any well has been accomplished, an affidavit shall be executed in duplicate and jointly signed by the owner or manager or his representative and the Mining Board Representative who supervised the plugging operation. The plugging affidavit, in duplicate, on a form furnished by the Mining Board, shall be filed in the office of the Oil and Gas Division of the Department of Mines and Minerals at Springfield, Illinois.

RULE XI-A

SEALING OF ABANDONED WATER WELLS

1. GENERAL

Unsealed abandoned wells constitute a hazard to public health and welfare. The sealing of such wells presents a number of problems, the character of which depends upon the construction of the well, the geological formations encountered, and the hydrologic conditions. To seal an abandoned well properly, several factors must be considered: (1) eliminating physical hazard; (2) preventing contamination of ground water; (3) conserving yield and hydrostatic head of aquifers; (4) preventing intermingling of desirable and undesirable waters; and (5) to protect possible tunnel or mining operations.

The basic concept of proper sealing of abandoned wells is the restoration, as far as feasible, of the controlling geological conditions that existed before the well was drilled and constructed. If this restoration can be accomplished, all the objectives of sealing wells heretofore presented will be adequately fulfilled.

To seal an abandoned well properly, the type of occurrence of the ground water at the particular well to be sealed must be recognized. If the ground water occurs under water table conditions, the chief problem is that of sealing the well with impermeable material to prevent the percolation of surface water through the original well opening or along the outside of the casing to the water table. If the ground water occurs under artesian conditions, the driller should be equipped to remove obstructions interfering with sealing operations and to provide for placing the sealing materials in the most effective manner. The sealing operations must confine the water to the aquifer

in which it occurs, thereby preventing loss of artesian pressure by circulation of water to the surface, to a formation containing no water, or to one containing water under a lower head than that of the aquifer being sealed.

Usually a well should be checked before it is sealed in order to insure freedom from obstructions that may interfere with effective sealing operations. This check is especially important in wells that may conduct contaminated or otherwise objectionable water into aquifers yielding potable waters. Removal of liner pipe from some wells may be necessary to assure placement of an effective seal. If liners or casings opposite water-bearing zones cannot be readily removed, they should be split with a casing ripper to assure the proper sealing of water-bearing zones with the sealing material. At least the upper portion of the casing should be removed to prevent surface water from entering the water-bearing strata by following down the casing. This operation is not always essential if the annular space around the outside of the casing was cemented when the well was drilled.

Neat cement, when used as a sealing material below the water level in the well, should be placed from the bottom up by methods that will avoid segregation or dilution of material. Piping cementing materials directly to the point of application or placement by means of a dump bailer or tremie is recommended. Other sealing materials referred to hereafter, except mud-laden or special clay fluids, can, as a rule, be gradually introduced into the top of the well.

Employment of a licensed well contractor or other person having received prior certification by the Department to accomplish sealing of a drilled well or one in creviced formation is required. His knowledge of well construction and the geological conditions of the region will be valuable in the proper abandonment of a well just as it is in the

construction of a new well. It may be advantageous to call in a consulting engineer or a representative of the State Health Department or other department having jurisdiction.

A log of the well, with information on construction, may be on file at the State Geological Survey. The Geological Survey can provide information on the probable sequence of formations present at the site in case the specific log has not been filed.

The recommendations contained herein pertain to wells in consolidated and unconsolidated formations, to those of small or large diameter, and to test wells. Each sealing job should be considered as an individual problem and methods and materials should be determined only after carefully considering the objectives outlined in the first paragraph of this section.

2. WELLS IN UNCONSOLIDATED FORMATIONS

Abandoned wells extending only into unconsolidated formations near the surface and containing water under water table conditions normally can be adequately sealed by filling with concrete, cement grout, neat cement, clay, or clay and sand. In the event the water-bearing formation consists of coarse gravel and producing wells are located nearby, care must be taken to select sealing materials that will not affect the producing wells. Concrete may be used if the producing wells can be shut down for a sufficient time to allow the concrete to set and if the concrete is placed (usually under water) without segregation of cement from aggregate. Clean, disinfected sand or gravel may also be used as fill material opposite the water-bearing formation. The remainder of the well and always the upper portion shall be filled with clay, concrete, cement grout, or neat cement to exclude surface water. The latter method, using clay as the upper sealing ma-

terial, would be especially applicable to large-diameter abandoned wells.

In gravel - packed, gravel - envelope, or other wells in which coarse material has been added around the inner casing to within 20 - 30 feet of the surface, sealing outside the casing is very important. Sometimes this sealing may require removal of the gravel or perforated casing or screens.

3. WELLS EXTENDING INTO CREVICED ROCK FORMATIONS

Abandoned wells that penetrate limestone or other creviced or channelized rock formations lying immediately below the surface deposits should be filled with neat cement* to assure permanence to the seal. The use of clay or sand in such wells is not desirable because fine-grained fill material may be displaced by flow of water through the crevices or channels. Pea gravel may be used for fill material through the water-producing horizon if limited vertical movement of water in the formation will not affect the quality or quantity of water in producing wells. Only neat cement shall be used in this type of well as seal material in that portion of the well between a point not less than 10 feet above and 10 feet below the bottom of the casing, and also to form a plug above the creviced formation. Clay or impervious material may be used to fill the upper part of the well.

4. WELLS EXTENDING INTO NONCREVICED ROCK FORMATIONS

Abandoned wells encountering noncreviced sandstone, or other water-bearing consolidate formations below the surface deposits, may be satisfactorily sealed by filling the entire depth with clay, provided there is no movement of water in the well. Disinfected clean sand or pea gravel

* Neat cement should contain 1½% by volume of bentonite or other suitable colloidal reagent to control shrinkage.

shall be used through the sandstone up to a point 10 feet above and 10 feet below the bottom of the casing. The upper portion of this type of well shall be filled with concrete, neat cement, cement grout, clay or other impervious material to provide an effective seal against the entrance of surface water. If there is an appreciable amount of upward flow, pressure cementing with neat cement or other material approved by the Department shall be used.

5. WELLS EXTENDING INTO MORE THAN ONE AQUIFER

Some special problems may develop in sealing wells extending into more than one aquifer. These wells shall be filled and sealed in such a way that exchange of water from each aquifer to another is prevented with the minimum requirement of a cement plug of not less than 30 feet in each section of impervious material in the natural formation. If no appreciable movement of water is encountered, filling shall be with neat cement, cement grout, or alternate layers of these materials and sand or pea gravel. When velocities are high, the procedures outlined in "Wells With Artesian Flow" are recommended. If alternate concrete plugs or bridges are used, they shall be placed in known non-producing horizons, or at frequent intervals when location of the non-producing horizons is not known. Sometimes, when the casing is not grouted or the formation is non-caving, it may be necessary to break or slit the casing to fill any annular space on the outside.

6. WELLS WITH ARTESIAN FLOW

The sealing of abandoned wells that have a large movement of water between aquifers or the surface requires special attention. Frequently the movement of water may be sufficient and the differential pressure may be so great to make sealing by gravity placement of concrete, cement grout, neat cement, clay or sand impractical. In

such wells, a cement retainer shall be used with pressure grouting equipment utilized to place cement grout. Lead wool, steel shavings, a well packer, or a wood or cast-lead plug or bridge will be needed to restrict the flow to permit the gravity placement of sealing material above the formation producing low flows with low differential pressures. If pre-shaped or pre-cast plugs are used, they shall be of sufficient length to prevent tilting.

Inasmuch as it is so important in wells of this type to prevent circulation between formations or loss of water to the surface, or to the annular space outside the casing, pressure cementing with neat cement and the minimum quantity of water that will permit handling shall be employed.

In wells in which the hydrostatic head producing flow to the surface is low, the movement of water may be arrested by extending the well casing to an elevation above the artesian pressure surface. Previously defined applicable sealing methods to fit geological conditions can then be used effectively.

7. SEALING MATERIALS

A number of materials for sealing wells satisfactorily, including concrete, cement grout, neat cement, clay or combinations of these materials, are mentioned herein. Each material has certain characteristics and distinctive properties; accordingly, one material may be especially suited for doing a particular job. The selection of the material must therefore be based on the construction of the well, the nature of the formations penetrated, the material and equipment available, the location of the well with respect to possible sources of contamination and the cost of doing the work.

Neat cement is generally used for filling the upper part of the well or water-bearing formation. For plugging short sections of casings or for filling

large diameter wells, concrete may be used. If not properly placed, however, the aggregate is apt to separate from the cement, and concrete will not penetrate seams, crevices, or interstices.

Neat cement is far superior for sealing small openings, for penetrating any annular space outside of casings, and for filling voids in the surrounding formation. When applied under pressure, it is strongly favored for sealing while under artesian pressure or those encountering more than one aquifer. Neat cement is preferred to a grout as it avoids the danger of separation.

Clay as a heavy mud-laden or special clay fluid applied under pressure does not set but is preferred by some competent authorities, but others feel that it may, under some conditions, eventually be carried away into the surrounding formations.

Clay in a relatively dry state or clay and sand may be used advantageously, particularly under water table conditions where diameters are large, depths are great, formations are caving, and there is no need of achieving penetration of openings in casing, liners, or formations, or of obtaining a water-tight seal at any given spot.

Frequently combinations of these materials are necessary. The more expensive materials are used when strength, penetration, or water-tightness is needed, the less expensive materials being used for the remainder of the well. Cement grout or neat cement is now being mixed with specially processed clays and with various aggregates. Superior results and economies are claimed for such mixtures.

8. WHEN WELL TO BE SEALED

The owner shall not permit any well drilled for water to remain unplugged thirty (30) days after it is abandoned and no longer used for the purpose for which it was drilled.

9. FILING AFFIDAVIT

Immediately after sealing of any well has been accomplished, and affidavit shall be executed in duplicate and signed by the owner or person, firm or corporation having custody or control of well at the time of the sealing operation before a Notary Public. This affidavit, in duplicate, on a form furnished by the Mining Board, shall be filed in the office of the Oil and Gas Division of the Department of Mines and Minerals at Springfield, Illinois.

RULE XII

VALIDITY OF RULES AND REGULATIONS

In case any word, phrase, sentence, or other portion of these Rules and Regulations shall hereafter be declared invalid, such invalidity shall not affect the remaining portions and parts of the Rules and Regulations adopted or promulgated by the Department.

All former Rules and Regulations heretofore adopted by the Department are replaced and superseded by these Rules and Regulations upon their adoption by the Mining Board.

MINING BOARD FORMS

Form OG 10-B Rev.—Application for Authorization to Drill, Deepen or Convert a Well.

Form OG-2—Revised—Application for Salt Water Disposal Well.

Form OG-3 Revised—Application for Gas or Water Input Well For Secondary Recovery.

Form OG-4—Pit application.

Form OG-5—Application for Pit renewal.

Surety Bond Form—For Individual Well or Blanket Bond.

Cash Bond Form—For Individual Well or Blanket Bond.

Suggested Form—Power of Attorney.

Report—Notice of Well Completion.

Form of—Release signed by landowner releasing operator of responsibility for filling pits.

Form of—Release signed by landowner releasing operator where top portion of well bore left unplugged for use as fresh water well.

Form for—Request to Cancel Bond.

Form of—Statement of Ownership.

Form OG-7—Application to Drill Water Well.

Not Distributed to Public:

Form O.G. 6—Well Plugging Affidavit.

Form for—Notice of Violation.

Form for—Cancellation of Bond.

Form OG-8—Water Well Plugging Affidavit.

